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Action Research as Professional Development: Creating Effective Professional Development in Every Classroom

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ACTION RESEARCH AS PROFESSIONAL DEVELOPMENT: CREATING EFFECTIVE PROFESSIONAL DEVELOPMENT IN EVERY CLASSROOM

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Education in the
College of Education
at the University of Kentucky

By

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ABSTRACT OF DISSERTATION

ACTION RESEARCH AS PROFESSIONAL DEVELOPMENT: CREATING EFFECTIVE PROFESSIONAL DEVELOPMENT IN EVERY CLASSROOM

Professional development is a critical component of teacher professional growth that directly influences increased student learning and achievement. As professionals, teachers continue to develop their knowledge and skills with the aim of improving their teaching to assure that students can learn better. A huge investment in time and resources is invested in teacher professional learning every year. However, teachers report, and research supports, that teacher professional development often does not meet teachers' needs and does not perform its integral function of creating a sustained change in teacher behavior that leads to a corresponding positive change in student achievement. This problem of practice directly affects the success of all students, teachers, and schools.

There exists, however, forms of professional development that do lead to this type of positive change, and one of those professional development models is classroom-based action research. This dissertation reports outcomes of a mixed-methods action-research study exploring the effect of training teachers to use classroom-based action research as professional development in which they identified and worked through the action research cycle to solve their own problems of practice. It details a study of teachers who embarked upon cycles of action research in their own classrooms and teaching environments. Quantitative and qualitative data analyses indicate positive changes occurred in teacher behavior through their conducting action research projects and that positive changes occurred in learning and achievement among their students. Further analysis of study data revealed increased understanding of the purpose of professional development, need for sustained change, and expectations of professional development that contains the characteristics that support the development of those changes.

While a body of research on classroom-based action research already exists, findings from this study supports and extends understanding of the characteristics of effective professional development and establishes classroom-based action research as one of those practices. Additionally, this study's finding of action research as a form of professional development that gives teachers "permission" to prioritize what they value in their classrooms opens up an additional interesting view into how teachers'

professional time is compromised by outside forces and requirements, which is an area that merits further investigation.

KEYWORDS: Professional Development, Classroom-Based Action Research, Teacher Efficacy, Teacher Collaboration, Action Research

Lori A. Cambareri

May 20, 2021
Date

ACTION RESEARCH AS PROFESSIONAL DEVELOPMENT: CREATING EFFECTIVE PROFESSIONAL DEVELOPMENT IN EVERY CLASSROOM

By

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Date

DEDICATION

To Elizabeth and Juliet.

Elizabeth: you made me a mom, and you make me happy every day. I love your confidence, your bravery, and your excitement in the things you love. The acceptance and friendship you show to everyone makes the world a better place.

Juliet, my mini-me: I am awed by your creativity, your drive, and the boundless curiosity you show in everything. Your sensitive soul shines through everything you do, and you bring so much more joy than you will ever know.

You are both my sunshines, my inspiration, and my motivation. Being your mom is my greatest joy.

I love you.

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much from all of them. My amazing principals, Rick Kimble and Frank Barber, have trusted me, taught me, and believed in me, and their example and friendship are invaluable. My teammates, Justin Mucitelli and Sarah Ainsworth support me, cover for my mistakes, and record our joint wisdom on my office whiteboard, where it continues to both inspire and confound.

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Lastly, I thank the teachers of the Corning-Painted Post Area School District, and particularly those who participated in my study and my CPPMS family. I have learned more than I could ever express from these hundreds of fiercely passionate, dedicated educators, and I am grateful for and humbled by the confidence in and support they show me. I am forever proud to be a Hawk.

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DIAGNOSING PHASE

Professional development of teachers is in some ways a self-referential practice because its purpose is to enhance the process of teaching. It thus should provide educators with tools and strategies to change their practices in ways that lead to positive changes in the learning and achievement of their current and future students. It would seem intuitive that teacher professional practices would be quite powerful and encourage robust teaching; however, this has not traditionally been the case (Hardy& Ronnerman, 2011). Many teachers report that they receive inadequate or ineffective professional development and extant structures and cultural expectations within schools frequently prohibit the incorporation of the most effective professional development practices (Matherson & Windle, 2017; Wei, Darling-Hammond, Andrée, Richardson, & Orphanos, 2003). Research indicates that effective professional development focuses on relevant and timely learning, provides opportunities for peer interactions and collaboration, is sustained over time with the opportunity for reflective adjustments, and is active and engaging (Matheson & Windle, 2017).

This chapter provides an overview of the Corning-Painted Post Area School District, which serves as the setting for this study on effective professional development practices. Stakeholder groups within the organization are identified, and the role of the researcher within the organization is described. A discussion of the problem of practice that inspired the study follows. The diagnostic phase is described through an overview of the process that includes the guiding questions of the diagnostic phase, conversations with stakeholders, and an overview of other sources of diagnostic information. The

diagnostic section of the chapter concludes with a summary of the findings. Following that discussion is the problem statement, an in-depth exploration of the literature related to the problem, and presentation of possible interventions. The chapter concludes with a summary of all these areas.

Context of the Study

This study was conducted within the Corning-Painted Post Area School District (Corning-Painted Post), a P-12 school district located in Corning, New York. The school district spans approximately 243 square miles and serves a population of 4,692 students in six elementary schools, one middle school, one high school, and one alternative high school. Both the middle school and high school are classified as International Baccalaureate World Schools. Thus, all students in Grades 6-10 participate in the IB Middle Years Programme, and 300 students receive at least one Diploma Programme Certificate, with an average of 35 full Diploma IB candidate recipients per year. The elementary schools use the New York State Common Core State Standards as the curriculum framework.

The student population within the school district is predominantly White, with minority students comprising 8% of the student population. Over 40% of students are considered economically disadvantaged, and 35% are identified as students with disabilities. The district employs 421 teachers as well as 19 school counselors, 14 social workers, 7 school library media specialists, 13 speech and language pathologists, 5 curriculum and instruction helping teachers, 4 special education consultants, and 15 building administrators. School resource-officer positions have been approved for every building, and there are six deans of students (i.e., two in the high school, two in the

middle school, and one each in the two largest elementary schools). The district has a unified culture concerning student achievement, and the members of the organization pride themselves for their student-centered philosophy that embraces innovation and improvement, buoyed by the pervasive mission statement "Students are the center of all we do" (Corning-Painted Post Area Schools, 2020).

Corning is the international headquarters of Corning, Incorporated, a Fortune 400 company, that over its 160-year history contributed to manufacturing many iconic American products in the glass and ceramic fields, including Edison's first light bulbs, Steuben Glass, Corelle Ware, Pyrex, and Gorilla Glass. Corning Incorporated often partners with the school district, providing support and resources for a variety of projects. The school district is also the home of the Rockwell Museum of Western Art, a Smithsonian affiliate that frequently partners with Corning-Painted Post to create art-infused lessons, units, and experiences for students.

Stakeholders

Corning-Painted Post has a range of stakeholders who have vested interests in the professional learning of educators. Each of these stakeholder groups thus have roles within the professional development process at Corning-Painted Post. Examining the perceptions of each group provides important diagnostic information about the current state of professional development in the district.

Assistant Superintendents

The assistant superintendents of secondary and elementary education oversee the professional development program at Corning-Painted Post. These two district leaders head the district Office of Curriculum and Instruction, which is responsible for regulating

curriculum development and alignment, obtaining resources for teaching and learning, overseeing teachers and instructional staff, and regulating all instructional and classroom management-related professional development. Additionally, the offices of Instructional and Informational Technology and Pupil Personnel Services (special education) are both under the purview of Curriculum & Instruction. Changes involving technology or special education (and subsequent professional development to support those changes) are thus overseen by these two assistant superintendents.

Helping Teachers

Helping teachers are certified educators employed through the teacher contract who maintain accrued seniority in their content areas while placed on special assignments outside of the classroom. Four helping teachers work for the Office of Curriculum and Instruction; their assignment is to help monitor curriculum, guide teachers in collaborative curriculum development, and plan and evaluate district-sponsored professional development. One helping teacher works with elementary teachers and is heavily involved with the curriculum development committees (e.g., mathematics, English language arts, science, social studies). A second helping teacher supervises curriculum development of teachers in Grades 6-12 and serves as the District International Baccalaureate Programme Coordinator and the Director of the Middle Years Programme. The third helping teacher works with teachers in Grades 11-12 and serves as the International Baccalaureate Diploma Programme Director. The fourth helping teacher serves as the Digital Learning Coordinator and facilitates a team of teachers, known as Building Instructional Technology Support Teachers. Team members receive an additional stipend to help teachers in their buildings utilize instructional technology,

supervise creation of instructional technology-related professional development that occurs monthly in each building, contribute to the creation and implementation of a district-wide Digital Citizenship curriculum, and support utilizing instructional technology in all curricula.

Professional Development Steering Committee

This district-level committee is comprised of teachers, a selection of building and district administrators, a representative from the Corning Teacher's Assistant Association (CTAA), and curriculum staff members responsible for the district's professional learning program. The committee meets monthly to discuss and plan district-sponsored professional development opportunities.

Building Leaders

All 15 building administrators at the secondary level oversee an academic content area by working with teachers to assure horizontal and vertical curricular alignment within their specific content area as guided by the Office of Curriculum and Instruction. At the elementary level, each building principal convenes one grade-level group, comprised of teachers from all six elementary buildings, to facilitate communication, horizontal alignment, and professional learning targeted toward their specific grade level. In addition, each building runs its own faculty meetings once or twice per month; building leaders design and provide professional development aligned to building goals within those meetings.

Teachers' Union Representation

This group of stakeholders represents teachers and their interests. The Corning Teachers' Association (CTA) has been instrumental in negotiating professional

development incentives and opportunities into the teacher's contract. Additionally, representatives from this group are included in many professional-development planning activities.

Teachers

The largest group of stakeholders involved in the process of professional development is teachers themselves. The district currently employs 564 teachers who facilitate pre-school through college placement classes and who are the most intimately affected by teacher professional development. Professional development of teachers is not just required for their continuous professional growth for individual teachers but also mandated by the state. New York State teachers who received their certification after February 1, 2004 are required to complete 175 hours of professional development every five years in order to maintain their certification.

Researcher Role

I have been an employee of Corning-Painted Post my entire professional career, beginning as a newly hired English teacher in 1998During those 14 years, I participated in a wide variety of initiatives, worked on diverse committees, and served as the long-term advisor for multiple student activities. In 2014, I became an Instructional Technology Helping Teacher, spending part of the day in the classroom and the rest of the day assisting high school and middle school faculty with their utilization of instructional technology in their teaching. In 2016, I became Corning-Painted Post's first Digital Learning Coordinator, responsible for leading a team of teachers dedicated to providing building-based technology support and working with teachers across the district with learning about instructional technology. I provided professional development

to teachers at all levels through workshops, small-group sessions, and one-to-one support. Additionally, I visited each school building weekly, met with teachers to design projects and programs incorporating instructional technology, modeled instruction within teachers' classrooms, and supported their professional learning. As such, I was able to build relationships with teachers at all levels as a provider of professional development.

In March 2018, I accepted the position of Assistant Principal (AP) of Corning-Painted Post Middle School (C-PPMS), a Grade 6-8 environment that serves as Corning-Painted Post's sole middle school. C-PPMS operates on a house system, where students and faculty are divided into three groups (i.e., houses), named for the school's colors (i.e., black, gold, white). Students are assigned to a house when they enter sixth grade and stay in that house throughout their time in middle school. Each house has core faculty teams at each grade level and provided a school counselor, a social worker, and an assistant principal (e.g., I am the AP of the White House). In my role as AP, I participate in creating professional development for the middle school faculty during twice-monthly staff meetings and in working to align the professional learning with district and building goals.

As a member of the district Multi-Tier Systems of Support Committee (MTSS), I participate in creating the district's direction in MTSS integration and professional learning and create specific professional development activities for the middle school revolving around MTSS and Social-Emotional Learning. Additionally, as the C-PPMS administrative representative on the District Technology Committee, I create district and building specific professional development focused on instructional technology. I am the district convener for the Technology Department (which incorporates 6-12 technology

and business teachers) and supervise their curricular development needs throughout the year and during staff development days during when teachers work with their departments.

Within the middle school, I work with the technology, English language arts, and mathematics departments. Departments meet as subject and grade level groups (i.e., Grade 7 mathematics) twice weekly. I regularly attend their meetings and provide oversight and support in their curriculum development, adjustment, and professional collaboration. Finally, as the White House AP, I am responsible for the professional evaluation of all teachers on the White House.

Overview of Problem of Practice

During my tenure at Corning-Painted Post, I have experienced the district professional development through many different roles and lenses. My experiences have been so diverse that I have been, at various times, a member of four of the six stakeholder groups I consulted with concerning this study (i.e., Curriculum and Instruction Helping Teacher, Professional Development Steering Committee Member, Building Leader, Teacher). One commonality of my diverse experiences with professional development, whether I was receiving it, planning it, designing it, or overseeing it, was the sense that it lacked cohesion and an overarching sense of purpose. Though much of the professional development I have received, planned, or delivered has been interesting, much has not. Additionally, I have frequently noticed a lack of continuity; for example, an area of professional learning will be explored, then quickly abandoned. In other experiences, a topic will be explored frequently and in-depth, but only in settings outside of the classroom with little or no follow-through, evaluation, or oversight to determine whether

professional learning has transferred to (or even been attempted in) classroom contexts. I observed that professional development was accompanied by continual follow-up and classroom monitoring, such as the professional development that accompanied the district's implementation of the International Baccalaureate Program, which leads to substantive and lasting change. However, there are few professional development programs in the district that have matched those results, leading to a system where there are a variety of offerings but few that seem to lead to any sort of significant change in learning or teaching.

Overview of Mixed Methods Action Research

This study uses a mixed-methods action research model. This section presents in more depth both the action research process and mixed- methods research characteristics for this study and the benefits of combining both research methods to address the problem of practice.

Action Research

Action research is a scholarly process that is practice based: It provides a structured, systemic method through which a practitioner can identify, analyze, devise, and implement a solution to an authentic problem within an organization that is affecting members' practice (Ivankova, 2015). While there are many models of action research, all process through a cycle first identified by Lewin (1948): (a) observe, (b) reflect, (c) plan, and (d) act. Because action research is cyclic, it can also be self-sustaining: Once a solution is implemented, observation of its consequences can form the basis for the continuing spiral of the process. This study uses a six-stage model of action research (a) diagnosing (identification of problem), (b) reconnaissance (collection and analysis of

existing data), (c) planning (determination of intervention to implement), (d) acting (implementation of intervention), (e) evaluation (collection and analysis of additional data to assess the effectiveness of the intervention), and (f) monitoring (revision and further analysis based on additional data) (Ivankova, 2015). Figure 1.1 presents a graphic of the process.

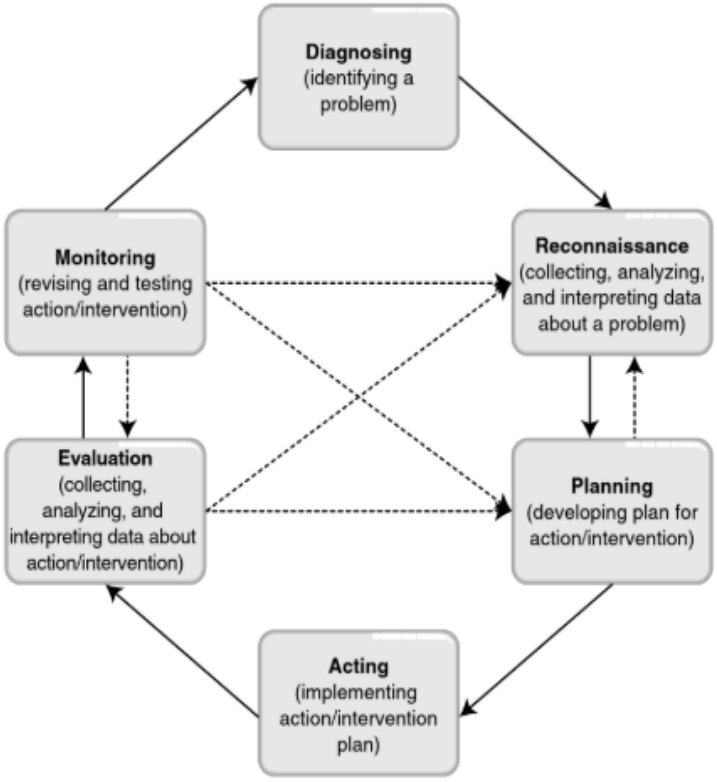


Figure 1.1 Methodological Framework of Action Research. This figure illustrates the action research framework utilized in this study. This framework was adapted from that introduced by Ivankova (2015).

Mixed Methods Research

Mixed-methods research was developed to investigate researchable problems more intensively and thus is frequently utilized in research projects that investigate study questions incorporating multiple perspectives and complex social issues (Tashakkori & Creswell, 2008). By combining both quantitative and qualitative research methods,

researchers can analyze different types of data generated by those two study types to create a broad, multi-faceted picture of the problem studied. Creswell and Plano Clark (2011) define specific circumstances for utilizing mixed methods research: (a) when using one method and its corresponding data set is insufficient to solve a problem, (b) when initial results found from one method require further explanation, (c) when data gathered from a small data set need to be generalized to a larger population, (d) when the study design needs to be enhanced, or (e) when there's a complex research problem that should be investigated in different ways through multiple research phases.

Mixed Methods in Combination with Action Research

The current study follows a Mixed Methods Action Research (MMAR) model (Ivankova, 2015), which is a combination of both the quantitative and qualitative study processes. Mixed methods research and action research share several commonalities. First, both processes seek answers (in the case of mixed methods research) and solutions (action research) to research questions. Second, MMAR incorporates reflective practices that are required to move between phases in the process. Third, MMAR utilizes both qualitative and quantitative sources and data. Fourth, the phases of MMAR are cyclic in nature. Finally, conducting MMAR is collaborative in scope and highly recommended for use by teams of researchers (Ivankova, 2015). This study, which involved educators working collaboratively with each other and with the researcher to identify and solve problems of practice in their classrooms. Because the study utilized data that ranges from feedback to interviews to student achievement data, it is well suited to the MMAR format.

Diagnosing Phase

During the Diagnosing Phase of this study, I explored an authentic problem of practice for study and analyzed the context of the problem within the culture of the organization. Additionally, I included a breakdown of the leadership focus of the problem. Next, I outlined the Diagnostic Process of the study, starting with developing guiding questions that helped to frame questions with stakeholders and then working through analysis of stakeholder conversations to develop themes that arose from those conversations. Finally, I inspected existing sources of information (e.g., district records and documents) that supported those themes that arose from stakeholder conversations and confirmed the problem of practice.

Professional Development as an Organizational Issue

The mission statement of Corning-Painted Post asserts "Students are the center of all we do" (Corning-Painted Post Area School District, 2020). The aspiration articulated in the vision statement is one of a "challenging, high performing teaching and learning community that develops inquiring, knowledgeable and caring young people." Five of the district's eight core beliefs reference learning and success. The eighth core belief, "staff requires professional development to enhance student success," refers directly to professional learning (Corning-Painted Post Area Schools, 2020). This is the only one of the district's core belief that does not directly reference students. Through these foundational documents, the district underscores its commitment to student learning and to adult professional development as well as underlining the importance of adult learning to facilitating student learning. It is apparent, based on the number of professional development opportunities offered by the district as well as the number of outside

professional development opportunities sought by teachers and accepted by Corning-Painted Post for professional development credit, that teachers and district leaders are committed to those stated values. Because professional development is one of the main stated values of the district, it is necessary to ensure that the professional development program is goals-directed and effective.

Professional Development as a Leadership Issue

School leaders have myriad roles encompassing tasks such as student management, community and public relations, staff evaluation, personnel management, and scheduling. Frequently, these tasks are managerial in scope, involving the coordination of activities and exerting authority to manage processes and make decisions. However, leadership is about more than coordination and organization. According to Rost (1991), leadership is "an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes" (p. 102). In a school environment, the "mutual purposes" (p. 102) of school leaders and followers within the organization is increased learning. To ensure increased learning among students, correspondingly effective learning must occur among teachers. Changes that lead to increased learning occur in many areas (e.g., curriculum, accepted pedagogies, school culture, policy documents). Some changes may involve issues of equity, ensuring that all students receive differentiated support based on their individual needs in order to increase their achievement. Other changes may be part of the leader's vision or may originate with teachers or the school community. Still others are imposed by external policy.

Regardless of the initial impetus for the change, school leaders are responsible for working with staff members to support them as they work to affect change. Research

indicates that teachers are the drivers of the successful implementation of any educational reform (Wei et al., 2009; Yigit & Bagceci, 2017). In order to create such successful program implementations, teachers themselves need learning, training, and time to practice and develop skills. Therefore, teacher professional development is at the foundation of any successful school change (Pharis et al., 2019; Slepkov, 2008).

Although frequently school leaders are not personally delivering or designing professional development, they play an integral role in the success of professional development programs for their teachers. Pharis and colleagues (2019) found that teachers cited school leaders' support as an important part of the success of such programs, asserting that the amount of support and involvement a school principal had in the professional development process was a significant positive predictor of the success of the program. School leaders' support for professional development comes in a variety of forms: (a) providing resources for professional development, (b) ensuring that schedules support implementation of new learning, and (c) providing opportunities for practice and collaboration supporting development of new skills (Darling-Hammond et al., 2017). School leaders' role in professional development however should go deeper than the managerial roles of arranging schedules and allocating resources. Noting that curriculum exists to guide learning achievement of students, Slepkov (2008) asserts that teachers are generally not provided with scaffolded support that allows them to shape and guide their own learning and development. He cautions that before ineffective teachers are removed from classrooms, the topics, purpose, and process of their professional learning opportunities should be as carefully considered and planned to assure alignment with their students' needs. It is the school leader's role to do this planning through

assessing the type of professional development that is needed, determining how it should be delivered, and providing resources for success and determine criteria to evaluate its effectiveness (Darling-Hammond et al., 2017).

Instructional leadership is often cited as an important role of an effective school leader. In some cases, the instructional leader role is conceptualized as overseeing curriculum, determining what is taught, and making sure teachers are adhering to prescribed curriculum. However, I assert that the role of an instructional leader is far greater than a managerial, authority relationship. School leaders and teachers should work together to determine and plan curricula, sharing their expertise and differing perspectives to create a holistic educational program for all students. However, ensuring that teachers are properly equipped to deliver curriculum in a way that supports students learning is the role of an instructional leader. Instructional leaders should provide teachers with tools, learning activities, and skills through professional development that helps them deliver instruction that positively affects and improves student learning.

Diagnostic Process

The purpose of this MMAR study was to determine whether a different design for professional development leads to professional development that is more impactful and creates positive change in teacher behavior within the classroom. The diagnosing phase of the MMAR study helps a researcher identify an authentic area in need of improvement through consulting the literature, engaging stakeholder groups in carefully defining the specifics of the problem, and refining study purpose and research questions. During the Diagnosing Phase, I conducted conversations with stakeholder groups, reviewed a variety of district records relating to professional development, and utilized the results of several

surveys conducted within the last three years on topics related to professional development. The guided conversations with stakeholders helped me to identify the perception and intent of the district-sponsored professional development program from viewpoints of those involved in disparate roles in the process (e.g., those who plan the professional development program, those who deliver professional development, those who received professional learning). Additionally, those conversations revealed inconsistencies and contradictions concerning perceptions and needs about teacher-oriented professional development.

After identifying themes, I was able to confirm their veracity by examining district documents related to professional development (e.g., offerings, records of completed professional development programs, upcoming professional development schedules). Finally, a review of the results from district surveys that incorporated professional development themes also confirmed the issues uncovered through stakeholder conversations.

Guiding Questions

While it was clear from my experience as a long-term educator in the district that professional development is an area where problems need investigating, the goal of the diagnosing phase was to determine specific areas that were problematic and to define the problems that existed. The diagnosis phase allowed me to meet with stakeholders, and through conversation with those groups, to identify specific problem areas.

To guide this diagnosing process, I created a variety of questions for stakeholders (see Table 1.1). These questions framed conversations with various stakeholders (e.g., administrators, teachers) regarding professional development, and revealed the priorities,

concerns, and roles within the professional development process for each stakeholder group. Through conversations framed by these questions and those that arose based on the responses, I was able to develop a clear picture of both the intended and the actual state of the professional development program within Corning-Painted Post.

Table 1.1

Diagnosing Phase Guiding Questions

Stakeholder Group	**Guiding Questions**
Assistant Superintendents of Secondary and Elementary Education	1. What are your highest priorities for teacher PD? 2. What stays constant in professional development from year to year? What changes? 3. What input do you get from building leaders? 4. If you could totally re-imagine PD in the district, what would it look like?
Curriculum and Instruction Helping Teachers	1. How do you determine what curriculum-related PD is needed? 2. What restrictions do you have to work with throughout the planning process? 3. How does student achievement data inform the PD process?
Professional Development Steering Committee	1. What limitations guide the creation of a PD program in the district? 2. What PD structures are the most and least effective? What makes them successful/unsuccessful? 3. What are some common feedback themes regarding teacher PD?
Building Leaders	1. What would PD look like if it were exclusively the prerogative of the building level? 2. What areas should PD concentrate on? 3. What role should teacher leaders (department chairs, team leaders, etc.) have in determining/conducting PD?
Union Representation	1. What themes in PD effectiveness (or lack of) are seen across levels? 2. What are frequent comments or questions from membership regarding PD?

Teachers	1. What do teachers want in professional development? 2. Do teachers feel the PD they are getting is effective? 3. What would make PD more effective? 4. How should professional development time be used?

Stakeholder Conversations

Conversations with different stakeholder groups regarding professional development revealed a series of similar perceptions, thoughts, and concerns. The findings suggested several broad themes that are discussed below.

Professional development as cultural value. Conversations with stakeholders revealed that there is an established, generally positive culture concerning professional development that currently influences professional learning practices within the Corning-Painted Post. Teachers are highly vested in pursuing professional development and utilizing professional-learning opportunities offered within the district as well as searching for learning from outside sources. One teacher noted, “Learning is kind of our thing—we need to practice what we preach.” Because teachers are committed to receiving professional development, the district is likewise committed to providing it.

Corning-Painted Post provides multiple professional-development opportunities each year. The only restriction concerning professional development provided externally is that it can be no longer than ten hours of online development (e.g., outside of college courses from accredited institutions) each year. The district offers a generous horizontal promotion incentive that allows teachers to move up the pay scale based on the amount of professional learning they receive. Professional development takes many forms in the district, and a staggering amount of professional development credit is granted each year – over 30,000 hours in both 2019 and 2020.

Professional development through teacher leadership. Corning-Painted Post also enjoys a culture of teacher-led professional development. Stakeholders identified many examples across the years but credited the district's 1:1 laptop program for initiating professional learning through teacher leadership. When the district began providing students with devices, there was an immediate need for teacher training in a wide variety of areas, ranging from how to use new hardware to strategies related to classroom management. Thus, district administrators and members of the Professional Development Steering Committee actively sought teacher leaders within the faculty to provide professional learning opportunities. This practice proved so successful that the Board of Education approved additional positions for teachers within each building to provide instructional technology support and professional development within their building. Today, each of those teachers provides at least one professional development session each month hosted in their home building but open to any teacher working within the district.

Early in the implementation process, several instructional-technology workshops were conducted during district-sponsored August Days, an annual, two-day-long professional development opportunity where teachers can choose from a variety of professional development opportunities. This teacher-led model has grown so large that teachers within Corning-Painted Post now offer their colleagues professional development in writing models, mathematics circles, personal wellness, cardiopulmonary resuscitation, decorative wood-burning, and an array of other topics.

Because teachers regularly report that they enjoy learning from their peers, more teachers have offered to facilitate professional learning. The Professional Development

Steering Committee thus regularly seeks experts from within the district to provide professional learning. Further, district curriculum leaders report that teacher-led professional development opportunities are among the most popular of all professional development offerings. Because their colleagues have more credibility among Corning-Painted Post teachers than outsiders, having peers lead professional development programs or share practices that work in their own classrooms helps to spread initiatives and recommended practices faster.

Instructional technology through teacher-led models. An area of professional development that emerged as a possible model for future district professional learning projects is instructional technology professional development. The creation of team of teacher instructional technology leaders, who provide instructional technology support and professional development, has provided teacher-led, teacher-driven professional development within each building in the district. The Building Instructional Technology Support (BITS) program has developed to the point where this team of teachers creates their own professional development plan and works collaboratively to create professional learning that they all then provide to teachers. They are responsive to teacher requests and district initiatives, delivering professional development in new district-wide software programs as well as in programs to support specific classroom projects and content.

Lack of shared purpose for professional development. Perhaps the greatest barrier to developing a coherent professional development program in Corning-Painted Post is the lack of a shared ideal among stakeholders as to what constitutes effective professional development. Related to that lack of definition is a lack of a process in place to evaluate the effectiveness of professional learning.

Teacher stakeholders identify the purpose of professional development as learning new things to become a more effective teacher. However, when asked about how scheduled professional development time should be used, professional learning is low on the list of teacher requests. Teachers most often express the desire for additional time to "catch up" on everything from grading papers to planning lessons to making copies. Some express the desire to spend the time collaborating with other teachers, typically on routine work and planning strategies. Many teachers feel that time spent on any activities besides that sort of task is somehow misspent, with some even expressing hostility toward professional development activities in settings such as faculty meetings. One teacher noted that they have "better things to do after school that read articles about how I should be teaching." CTA leaders assert that "work time" is by far the most requested "offering" for professional learning time. Building leaders have also expressed that their teachers want to spend professional learning time on completing professional tasks and thus frequently express frustration when that is not the case.

For other teachers, the goal of engaging in professional learning is simply to get professional development. The district's incentive programs have had an unintended side effect of creating a mindset where the purpose of the professional development is the credit received for attending, rather than the learning obtained from it. Some teachers talk about their "credits" or "hours" earned when evaluating professional development. Some building leaders report that there is a disconnect between their roles as administrators and those as providers of professional development, particularly during district-wide professional development events. They perceive that their main concerns are the lack of opportunities for teachers to work with groups outside of infrequent staff development

days and the absence of connecting to teachers in their convener or grade-level groups who work outside of their buildings.

Some teachers seek professional learning in response to the district's financial incentives for accumulating certain levels of professional development credit rather than for valuing the learning experience as a means to improve their practice. District curriculum leaders acknowledge that some teachers are so focused on "moving up the pay scale" their selections tend to focus on multiple, brief, online professional-development offerings. Additionally, the push for online, individualized professional development credit is often intense. Such professional development is the most flexible, thus allowing teachers to complete it from their homes at times that do not conflict with the needs of their families and other responsibilities. However, district leaders agree that this type of professional learning is the hardest to assess and track for its overall intensiveness and value in teachers' professional learning or to determine its effectiveness.

Effective professional development. Based on informal conversations with administrators and teachers, there does not seem to be a cohesive definition of *effectiveness of professional development* within Corning-Painted Post. Different stakeholder groups prefer various elements of professional development based on their individual perspectives. District curriculum leaders identify programs that occur over a sustained duration as effective, but that criterion is not cited by teachers. Further, determining effectiveness is often based on demand (e.g., requests for repeated professional development on specific topics or from specific presenters indicates effectiveness to them). Building leaders report that they perceive a professional

development is effective when they notice teachers practicing the new strategies in the classroom. Teachers feel their learning was effective when they discover *a new trick* to implement in the classroom.

Feedback is an important indicator of effectiveness across several groups, with multiple stakeholder groups indicating that they rely on feedback from teachers to determine effectiveness. Some building leaders point to collaborative professional learning experiences such as book studies as effective, particularly when such activities prompt changes in school culture or teacher perspectives. This was the closest to an explicit definition of *change* as a desired outcome for professional learning among verbal and written commentary reviewed. However, there are no processes in place to measure effectiveness of professional development other than participant feedback that occurs immediately at the end of the professional development experience (generally, a one-day workshop experience). During some professional development experiences, teachers work together to examine student data, but there is no an overall examination to assess whether student achievement increased because of the professional development. That outcome, together with a lack of accountability measures, creates difficulties in evaluating the effectiveness of the district-offered professional learning. Some of this confusion may be a result of the lack of specific types of professional development that lead more toward measures of effectiveness, particularly professional development that is sustained over time and that which incorporates active learning, feedback, and reflection.

Barriers to professional development. Through conversations with stakeholders, a few specific barriers to creating and sustaining strong professional development models emerged. The greatest barrier is *time*. Although there are several

specified staff development days throughout the school year, only two are dedicated specifically to large-scale professional learning. Since they are so few and so widespread (e.g., prior to opening new school year or between semesters), it is difficult to create continuity between sessions or a sustained program of learning. Opportunities for professional development are offered during the school year, such as scheduled release days for curriculum work, staff meetings, grade-level or department meetings after school, or collaborative team meeting time during the school day. However, since these sessions are largely planned and delivered by wide-ranging groups, it is difficult again to maintain continuity. Finally, even this little time is often diminished by mandated professional training and information workshops (e.g., workplace hazards, school safety training, sexual harassment training, English Language Learner updates). However, such sessions rarely focus on content-area or building-focused trainings.

Sources of Information

An examination of various district documents and records confirms the messages regarding professional development uncovered during stakeholder conversations. The documents confirm both the perceived positives of the district's professional development program as well as some of the underlying concerns about the program. Positives perceived include (a) the variety of different types of professional development available, (b) the high levels of participation in professional development by the faculty, and (c) the frequency of professional development opportunities offered by the district.

Professional development offerings. Two findings from stakeholder conversations were that professional development is highly valued by educators and that a variety of offerings is available. Table 1.2 below displays an overview of some of the

professional development offerings during the 2019-2020 school year and the number of teachers who engaged in those offerings. The list however does not include the 2-day August Days workshop series, the two district-wide staff development days, or specific professional learning offered at the building level. These offerings show the wide variety of professional development experiences accepted, encouraged, or supported by the district as well as the high numbers of teachers who engage in these opportunities. This information reveals the culture of professional development and the district support for teacher learning frequently referenced during stakeholder conversations.

Table 1.1

Professional Development Tracked by Steering Committee, 2018-2019

Form of PD	Number of PD Offerings by Type	Number of Teachers Engaged in Offerings
Book Study	16	266
Conference or Workshop	47	907
On-Line Workshop	3	19
On-Line Live Workshop	3	5
Webinar	4	9

Professional development credit hours awarded to teachers. An even more in-depth examination of the level of involvement in professional development was evident through an examination of the record of professional development hours awarded to teachers (see Table 1.3). Interestingly, some professional development was awarded for activities that are not always viewed as professional development, such as mentoring student teachers and examining student data (referenced in the line for Extension of Professional Time per contract Article 3.3b) but that contribute to teacher learning and practices that affect students.

Table 1.2

Professional Development Hours Awarded by Activity, 2018-2019

Professional Development Type	Hours Awarded
August Days	6,494
Book Study	3,467
Conference	248
Student Teacher	660
Extension of Professional Time (Article 3.3b)	1,549
Graduate College Courses	302
In-service Credit	16,100
Professional Development Meeting	4,851
Staff Development Days	1,041
Total Professional Development Time:	**34,712**

Technology professional development offerings. The most highly favored professional development in Corning-Painted Post is teacher centered. Teachers prefer opportunities where they have choice or input and have responded very favorably to professional learning delivered by district faculty. A model for this teacher-directed, teacher-delivered process is the instructional technology development program. Several technology-related training events—all delivered by a building-assigned teacher—are offered each month at all buildings in the district. Table 1.4 shows the yearly schedule of opportunities by topic, which were developed with teacher input and based on district initiatives and teacher needs. The Open Lab sessions are the result of requests from teachers wanting specific, personalized guidance and support for technology infusion within the classroom. This consistent, planned schedule of professional development is entirely teacher led, and it is responsive to expressed teacher needs and informed by what

is occurring in district classrooms. Again, this work demonstrates a commitment to meeting teacher professional development needs as well as a focus on teacher leadership within professional development.

Table 1.3

Instructional Technology Professional Development Offerings, 2019-2020

Month	Professional Development Offerings
September	• Touch it TVs (MS) • eDoctrina Software Introductory Training
October	• Digital Citizenship (Common Sense Media)
November	• Google Suite (Classroom, Docs, Slides)
December	• Apps, Extensions & Websites (building choice - focus on building • areas of interest)
January	• Open Lab Session
February	• Working with Your Chromebook in an Educational Setting
March	• CBT updates
April	• Working with Media in your Classroom • YouTube
May	• TBA
June	• Open lab

This program of professional development, however, also underlines the flaws of the district plan identified during conversations with stakeholders. The yearlong program is delivered as an episodic, one-shot delivery format, couched within small workshops, and based on individual topics without any opportunities for follow-up, revision, or guided practice. Without defined specific, measurable goals identified for such sessions, other than to "learn about" programs or strategies, this system creates a professional development program that is difficult to evaluate for effectiveness. While these is a nod

to the collaboration and possibly feedback in the open-lab sessions, their objectives are poorly defined and have no set expectations for continuous growth beyond the two-hour session.

Findings from the Diagnosing Phase

During the diagnosing phase, several themes regarding professional development at the Corning-Painted Post were uncovered. First, the leaders and teachers within the district value professional development, and the district offers or supports many professional development opportunities. Instructional technology-related professional development has formed a model for practices that are teacher-led, both in terms of response to teacher needs and choice and in that the development and delivery of professional learning is accomplished by district-based teacher leaders. However, diagnosis also revealed that there is not a concrete, shared sense of reason or purpose for professional development. In some cases, participating in professional development—and the financial incentives that accompany it—seemed to be the end goal, rather than ongoing teacher growth and development. That blurred sense of purpose extended to a lack of common definition regarding what makes effective professional development, and a lack of the idea that change, and thus improvement, is a driving force behind professional development. Finally, few professional development opportunities were sustained over time or incorporated feedback and reflection—two requirements for wide dissemination and adoption of changed practice (Darling-Hammond et al., 2017; Guskey, 2002). During the diagnosing phase of the study, the only indicators of effectiveness were teacher feedback and anecdotal evidence of building leader observations, which were not purposefully sought.

Supporting Literature

Teachers are responsible for their students' learning: Their purpose is to ensure that students build appropriate knowledge bases, learn skills, and adopt practices that will help them to reach their full potential as learners and as individuals. In order to help their students learn, teachers must define *themselves* as learners, continually cultivating their professional skills so that they are able to design and deliver curriculum effectively, to assess and analyze both student progress and effectiveness of their instruction, and ultimately, to increase student learning and achievement. The actualization of any educational goal, whether it is a curricular program, initiative, or student aspiration, is ultimately of the responsibility of classroom teachers (Wei et al., 2009; Yigit & Bagceci, 2017). To prepare themselves for their work, teachers must continually engage in high quality professional development that provides them the content knowledge, pedagogical awareness, and professional skills and knowledge necessary to be successful and to assure their students' success (Desimone & Garet, 2015; Wei et al, 2009).

Research indicates that an educational organization that values student learning must place equal emphasis on teachers' long-term professional learning. According to Slepkov (2008), "the process of learning to teach is complex and occurs over a professional lifetime" (p. 85). Teachers who are supported in that complex endeavor are offered high-quality learning opportunities and provided time and resources to practice and implement their new skills—and thus can significantly and positively affect student achievement (Wei et al., 2009; Yigit & Bagceci, 2017). Likewise, Guskey (2017) asserts that the purpose of professional development is for teachers to learn and grow as educators and facilitators: "Effective professional development is purposeful and

intentional; the goal is to 'get better at our profession.' Getting better generally means having a more positive influence on the learning of our students and helping more students learn well" (p. 33).

Purpose of Professional Development

Effective professional development for teachers must be designed with a specific end in mind. Although professional development is oriented toward teachers' continuous growth, the ultimate end goal is increased and enhanced student learning. This focus is not to devalue teachers as learners: Teachers themselves are motivated to participate in professional development by the desire to become better teachers, which they generally define as developing their ability to enhance student achievement (Guskey, 2002). That degree of separation between those engaged in professional development and those whom it is supposed to affect can sometimes cloud the ultimate purpose of the process, particularly when the creators and implementers of professional development lose sight of the end goal or fail to engage teachers in active learning. Since teachers are the bridge between the program (professional development) and its desired outcome (student achievement), there must be purpose and goals built into the process explicitly oriented to address teachers' professional growth. To assure enhanced student achievement following teachers' professional learning activities, the goal of professional development must be to change teacher practice in a way that enhances student learning achievement. This positive change, in both teacher classroom behaviors and student learning outcomes, is the over-arching purpose for professional development (Guskey, 2002; Wei et al., 2009; Yigit et al., 2017).

Multiple studies indicate that effective professional development practices can and do lead to lasting change in teacher practices and ultimately growth in student achievement (Darling-Hammond et al., 2017). However, as Guskey (2002) noted, the stated goal of *change* is the most neglected part of professional development, likely because creating truly effective change is difficult and involves intensive planning and appropriate delivery. He further argues that change cannot occur when professional development is perceived as an event, rather than as a sustained process. That assertion supports the argument that certain types of professional development are more likely to lead to change than other types (Boyle et al., 2004) and prompts the question about what practices are most effective in creating the desired change that achieves the purpose of professional development.

Current State of Professional Development

Although significant conversation and research regarding exactly what this elusive model of *most effective professional development* should consist of has transpired, there is one area in which there is resounding agreement: What we have now is *not* it (Cunningham et al., 2015; Darling-Hammond & Richardson, 2009; Guskey, 2002; Matherson & Windle, 2017; Wei et al., 2009). Yigit and Bagceci (2017) boldly assert that most teacher professional development is an outright failure, while Zeichner (2003) denounces the traditional professional development model as "unconnected to teachers' daily work and disrespectful of teachers' knowledge" (p. 301). While Saxe, Gearheart, and Nasir (2001) are a little more forgiving, noting that the "social science of professional development is immature" (p. 56), they concede that although the intent of

professional development is transformative, there is often little transformation occurring afterwards.

According to Slepkov (2008), the traditional model of professional development itself is the cause of failure to create sustained change in classrooms. He theorizes that teachers "make few changes [in their practice] over time, perhaps because the quality and flexibility of teachers' classroom work is related to their professional growth" (p. 87). Through their long-term research, Desimone and Garet (2015) reached a similar conclusion, noting that the professional development typically offered to teachers is "often fragmented, with little continuity across PD opportunities and little cumulative design" (p. 256). This fragmentation results in programs that not only fail to enhance teachers' professional practice but also do not lend themselves to research, making it difficult to use the programs as learning resources to build better ones.

Research indicates what is *ineffective* in teacher professional development. These include reliance on (a) a one-shot isolated workshop model, (b) a format that focuses on simply training teachers on a new technique or behavior, (c) sessions isolated from teachers' actual content or curricula, (d) training activities with no follow-up or support, and (e) programs not sustained over time (Darling-Hammond & Richardson, 2009, Wei et al., 2009). Although such instruction generally does not result in lasting change (Cunningham et al., 2015), over 90% of teachers have engaged in that type of professional development for decades (Wei et al., 2009). Unfortunately, such practices are designed to *act on* teachers' practice by firing knowledge, tasks, and expectations at them rather than *work with* teachers by providing opportunities for practice feedback, coaching, mentoring, and reflection. This act-on approach robs teachers of opportunities

to explore new knowledge and develop new skills in risk-safe environments, thus preventing them from being proactive in their own professional learning (Hardy & Ronnerman, 2011).

Another factor that influences failure of professional development to affect change is the approach that such programs use. The assumption of most professional development deliverers is that teachers must change their attitudes and beliefs to accept the ideas behind a new practice. It is presumed that only after teachers change their beliefs will they alter their practices to match new expectations or requirements. However, teachers are unlikely to adopt and sustain new practices unless they are sure that they will be effective (Pharis et al., 2019) or that they have the requisite skills and understanding to achieve aspired goals. Therefore, rather than attempting to persuade teachers to believe in the effectiveness of a new method or strategy, professional development programs should teach the practice and how to implement it, then provide opportunities for teachers to utilize and practice the strategy and to evaluate their results. When teachers see student growth because of their use of a new strategy or instructional materials, they are then much more likely to change their attitudes and adopt new practices that lead to long-term change (Guskey, 2002).

Traditional modes of professional development also fail to provide teachers with what they are seeking in their own professional learning. While professional learning is valuable, the kind that is traditionally offered (e.g., brief, often unrelated to teachers' professional needs, arranged according to topics selected by others, delivered by outside agencies, completed with an expectation that teachers will implement what is expected without question) is not enough. The preferences teachers have for their own professional

learning are very different from this traditional model. Two-thirds of teachers surveyed by Zeichner (2003) indicated that they have no say concerning the professional development that is provided to them or expected of them; further, they report that most professional development they receive is frequently delivered in isolated workshop sessions. Conversely, teachers want learning opportunities that are teacher informed, delivered by their colleagues, and provided over time (Matherson & Windle, 2017). Further, teachers want professional development that emphasizes specific skills and goals needed to enhance their content knowledge and curricula, rather than focusing on discussion of teaching itself (Cunningham et al., 2015). Research indicates that teachers desire useful professional development that focuses on the day-to-day work of teaching and integrates assessment and reflection, rather than presentation of abstract ideas (Wei et al., 2009). Since student achievement must always be at the center of professional development, teachers are interested in learning about new knowledge and strategies that are relevant to their students' experiences, such as content-related training, classroom management skills, instructional-technology strategies, and methods of teaching students with special needs (Matherson & Windle, 2017; Wei et al., 2009). Additionally, in contrast to the *sit-and-git* model of passive instruction, teachers want to be actively engaged in hands-on learning experiences that allow them to experience, practice, and conceptualize new knowledge and skills transferrable to their classroom practice (Darling-Hammond & Richardson, 2009; Matherson & Windle, 2017; Wei, et al. 2009).

Characteristics of Effective Professional Development

Significant research has been conducted to determine what makes a professional development program effective. Though some studies emphasize different qualities,

several components emerge as foundational aspects of effective professional development. Although many factors can contribute to the success of professional development programs, the following elements are essential to include or consider when developing programs that create sustained, changed professional practice: (1) context and coherence, (2) content specific strategies, (3) autonomy and choice in the learning process, (4) incorporation of active learning opportunities, (5) collaboration, (6) feedback and reflection, and (7) learning over a sustained duration.

Context and coherence. For professional learning to be effective, it cannot take place in a vacuum. It must be related to the context of teachers' experiences and incorporate the initiatives and goals teachers are working toward. The most successful professional development activities occur when professional learning is directly linked to a school improvement initiative (Darling-Hammond et al., 2017). In such cases, when there is an immediate problem or goal needing to be addressed, the learning is related to that area of concentration and immediately applicable to the solution. This type of situation creates an authentic environment—a situation where real-world application of learning is possible and even necessary (Slepkov, 2008). Professional development should also be coherent with teachers' work, linked to the curriculum, assessments, and standards that teachers use to guide their teaching as well as designed to be readily incorporated into their lessons and assessments (Darling-Hammond et al., 2017; Desimone & Garet, 2015).

Content-specific strategies. For teachers to change their practice in a way that increases student achievement, they need to develop their own knowledge and skills. If professional development focuses on their unique needs, teachers are more likely to

perceive it as effective and thus change their professional practices (Wei et al., 2009). However, it is important to establish exactly what kind of knowledge and skills need to be developed. Content-specific learning that should be included in professional development can be broken down into two categories: (a) specialized knowledge of content and (b) content pedagogical knowledge (de Oliveira Souza, Lopes, & Pffankuch, 2015; Saxe et al., 2001; Zehetmeier, Erlacher & Rauch, 2014).

A solid base of content knowledge specific to the subjects taught is a necessary element in any teacher's repertoire. Research indicates that professional development has a stronger effect on teachers' practice when it deepens and enhances a teacher's content knowledge (Darling-Hammond & Richardson, 2009; Desimone & Garet, 2015). Indeed, if a teachers' own content knowledge is sketchy or incomplete, teachers cannot build a strong base of that knowledge within their own students. For example, students who do not understand fractions often struggle because their teachers do not really understand fractions themselves (Saxe et al., 2001).

Content pedagogical knowledge encompasses the range of instructional strategies and methods that are effective in helping students learn specific types of content. This type of knowledge can include elements of instructional design, student learning processes, and specific teaching strategies as they relate to providing instruction to support the way students learn (de Oliveira Souza et al., 2015). It also provides teachers with an understanding of student needs within their content area. Instruction focused on how students learn a subject is more effective in raising student achievement than instruction about general principles or concepts of the subject itself (Boyle et al., 2004; Wei et al., 2009; Desimone & Garet, 2015).

Autonomy and choice. Autonomy, which is the ability of an individual to initiate, organize and approach one's own work, is an important component of teacher professional learning (Zehetmeier, et al., 2014). Teachers want professional learning that supports their work in their classrooms and addresses possible problems or barriers they have identified in their teaching. They want professional development that is delivered in contexts where collegial engagement, reflection, and purpose are provided. Unfortunately, much of the professional development designed for teachers is determined by others and without teacher input. Further, it is often delivered in a direct-instruction format or "technist" model that does not engage teachers as professional partners (Hardy & Ronnerman, 2011; Zeichner, 2003). Having choice in professional learning topics and professional development experiences, which support autonomy in how to implement learned strategies, leads to greater sustained change in classroom behaviors.

Active learning. Traditional professional development is typically designed as a passive experience for teachers: They receive direct instruction on a topic (that may or may not be coherent with their current practice) and then are expected to change their classroom practices. However, to affect change that is integrated into teachers' professional practice, they must have opportunities to engage actively in their learning: to practice it, to experience it, to determine what works, and to figure out what does not (Cunningham et al., 2015; Darling-Hammond et al; 2017; Desimone & Garet, 2015). This opportunity to practice and refine new strategies is *active learning.* When related to teacher professional development, Darling-Hammond and colleagues (2017) call it an *umbrella element* that integrates many practices that make professional development successful (e.g., reflection, coaching, modeling, feedback). Those who design and

facilitate professional development must recognize that teachers respond to professional learning in different ways and require different levels of support in their learning. Facilitators and trainers need to be ready to provide support to address those differing needs (Desimone & Garet, 2015; Slepkov, 2008). Active learning provides that support and allows teachers to self-differentiate by choosing methods of practice that meet their individual needs.

Collaboration. Essentially every professional development model that has shown any degree of effectiveness in creating sustained change in teacher practice has one element in common: They are all collaborative (Cunningham et al., 2015; Darling-Hammond et al., 2017; Pharis et al., 2019; Wei et al., 2009). Teacher collaboration benefits teachers and students alike in a variety of ways.

Teachers perceive collaborative professional development as more effective than solo pursuits. After working with peers, they report positive attitudes toward the experience, increases in their content and pedagogical knowledge, and transformed behavior in the classroom (Cunningham et al., 2015). Since heightened teacher efficacy produces heightened student achievement, this factor by itself supports collaborative professional development.

Additionally, collaboration with peers produces deeper and more sustained learning than more individualistic types of professional development. Teachers who are able to (a) engage actively with one another; (b) share ideas, feedback, and reflections about their learning; (c) examine and draw conclusions from student work; and (d) engage deeply in conversations about issues related to the content and pedagogy report they learn more in their professional trainings than they do when just focusing on process

(Killion, 1999). Professional development practices that are inherently collaborative, such as peer observations and collaboration in the development and revision of lessons, have been shown to lead to more sustained changes in teacher practice (Boyle et al., 2004). Collaboration also helps to support the development of reflective skills necessary to change practice, by providing context and company for reflection (de Oliveira Souza et al., 2015).

Finally, sustained collaboration leads to creation of professional connections and supportive groups, such as professional learning communities or communities of practice, that have been found to be highly effective in creating schoolwide changes. As teachers work together toward mutual goals and use their colleagues' shared knowledge and experience as resources, they build and nurture professional relationships with their peers. Over time, collaborative dialogues around professional practice become deeper and more authentic, increasing the depth of the learning experience as teachers work together and use each other as resources in their common work of supporting student learning (Cunningham et al., 2015; Zehetmeier, 2014; Zeichner, 2003). This collaborative work creates a collective sense of responsibility for students that motivates teachers to work together to solve student issues, leading to reduced student dropout rates, lower levels of absenteeism, and achievement gains in mathematics, science, history, and reading (Wei et al., 2009).

Collaborative work has not traditionally been a staple of American educational practice: "Confined to the egg-crate model of classrooms and stymied by the resulting norms of privacy, the U.S. teaching occupation has historically offered little opportunity for collective teacher work" (Wei et al., 2009, p.10). Although such collaborations are

becoming more common, they have not yet become the norm in the United States. In fact, by some measures only 17% of teachers have engaged in peer collaboration (Wei et al., 2009). Teachers who are accustomed to the solitary nature of the profession may resist or need to learn the skills of collaboration. However, when they see the effects of their collaborative work on their own practice and on their students' learning, they are more likely to view teacher collaboration as an important part of their professional learning (Guskey, 2002; Wei et al., 2009).

Feedback and reflection. Adult learning requires different assumptions and characteristics than those when children are learning; thus, the needs of adult learners must be considered when creating professional development. Reflection and inquiry are central to the learning process for adult learners (Trotter, 2006). However, while certain types of adult learning, such as instrumental learning that focuses on specific skill development and dialogic learning that involves working collaboratively toward new learning, are becoming more common or sought after in professional development. However, a third kind of adult learning, *self-reflective learning*, is often neglected (CITATION). Self-reflective learning requires adults to engage actively in learning and to reflect on their own performance and the experiences that they contribute to the setting. They also expect opportunities to practice actively their new learning in order to gain greater understanding.

For meaningful change to occur in teacher practice, emphasis must be placed on self-reflective learning (Slepkov, 2008). In generating feedback (i.e., reflection on the performance of others) and engaging in self-reflection, teachers can develop and share reactions to authentic practice, including lesson plans and instructional delivery (Darling-

Hammond et al., 2017). Further, feedback and reflection are important aspects of creating and sustaining change. Guskey (2002) argues that new practices will "be accepted and retained when they are perceived as increasing one's competence and effectiveness" (p. 387). Teachers must receive feedback as they reflect on their professional practices to help them celebrate their successes and to identify lessons learned through failures. Professional skills under the umbrella of *professional knowledge* include the ability to (a) reflect on one's practice, (b) self-assess one's performance, (c) collaborate and communicate with others, (d) seek feedback from others, and (e) engage in inquiry about how to improve practice. These skills are critical to a teacher's professional growth (Cunningham et al., 2015; de Oliveira Souza et al., 2015; Guskey, 2002; Wei et al.; 2009; Zehetmeier et al.; 2014). Practices that involve self-reflection and self-examination lead to increased teacher autonomy. They likewise develop teachers' ability to reflect on their own practice, use student performance outcomes to assess their instruction, and make self-guided adjustments in order to enhance student achievement.

Sustained duration. Despite conventional wisdom, the *quality-over-quantity* perspective does not seem to hold true for professional development of teachers. Rather, quantity must be a component of quality. There is evidence that teacher learning from professional development and the associated gains in student learning are connected to the number of content hours that teachers spend involved in professional learning with peers (Darling-Hammond & Richardson, 2009; Wei et al., 2009; Zehetmeier, 2014). According to Slepkov (2008), "(m)eaningful professional development needs to be looked at as a long-range goal and activity for teachers" (p. 98). Darling-Hammond, Hyler, and Gardner (2017) agree that "(t)raditional episodic and fragmented approaches

to PD do not afford the time necessary for learning that is 'rigorous' and 'cumulative'" (p. 15).

Hence, for professional development to be effective, it must occur over a sustained duration of time. It must be challenging and incorporate other components of effectiveness (e.g., collaboration, context, feedback, reflection) whether delivered via a brief workshop or other episodic professional learning event. Professional learning is most effective when it is sustained and incorporated into other long-term efforts, such as school improvement or reform programs (Wei et al., 2009; Guskey, 2002; Slepkov, 2008). The true measure of professional development effectiveness—authentic and permanent change in the classroom practices of teachers—is found in much higher numbers among those teachers who engage in sustained professional development activities (Boyle et al., 2004).

Summary of Problem Statement

Through the work completed during the diagnostic phase of this study, I identified specific issues within the professional development programs at Corning-Painted Post that contribute to an overall problem of practice related to effective professional development. While teacher professional development is valued and heavily supported, there is no evidence that it is *sticking*—becoming a part of teachers' everyday practices and thus contributing to an observable change or growth within the organization (e.g., enhanced student learning).

Conversations with stakeholders indicated that teachers are interested in having more input in the topics, content, and delivery of their professional development. District and building leaders caution that teachers often request "time to work" as professional

development and evidence a cultural misunderstanding regarding the purpose for ongoing professional development. Leaders articulated barriers to creating and implementing a purposeful, scaffolded program of professional development, chief among which are state and federal mandated trainings (e.g., sexual harassment prevention, workplace hazards education, special education updates). District and building leaders, however, are clear that professional development is a major concern of theirs as instructional leaders and admitted it is an area where they struggle to find the most appropriate path forward.

Research on professional development indicates that the ultimate goal of professional learning is change; namely, change in teacher classroom behaviors that then leads to enhancement of student achievement (Boyle et. al, 2004; Darling-Hammond et. al, 2017; Guskey, 2017; Pharis, Wu, Sullivan, & Moore, 2019; Slepkov, 2008; Wei et al., 2009; Yigit & Bagceci, 2017). The most effective professional development focuses on the ultimate motivation (i.e., student achievement) and integrates components that make adult learning successful, including choice, collaboration, sustained duration of learning, opportunity for reflection, and active learning (Cunningham et al., 2015; Darling-Hammond et al., 2017; Desimone & Garet, 2015). Incorporating these aims into teacher professional development would be a significant change from the current workshop-based model but could lead to significantly more positive changes in teaching and learning.

The goal of this research is to create a professional development program that is more effective through engaging teachers in investigating needs, researching solutions, implementing interventions, and reflecting on the effects of the change. Different models

of professional development shown to be effective have in common an inquiry-practice-reflection cycle, like the action research cycle described above.

Summary

Chapter 1 began with a description of the context of the study: Corning-Painted Post Area School District, a P-12 school district located in the southwestern area of New York State, and with a description of the stakeholders in the study outcome. Several groups were consulted during the diagnosis of potential problem, including district leaders, helping teachers involved in curriculum and instruction, building leaders, members of the district Professional Development Steering Committee, leaders of the teachers' union, and teachers. I described in detail my role within the district, including my different experiences with receiving, planning, and delivering teacher professional development. I described the overall problem of practice that inspires this study: The current professional development provided for Corning-Painted Post teachers does not lead to significant or sustained changes in teacher practices in the classroom. I then described the process that I use to investigate the problem of practice: the mixed methods action research cycle detailed and described by Ivankova (2015).

In the diagnosing phase overview, I included the guiding questions that shaped my conversations with stakeholders as well as several themes regarding professional development in the district that arose from those conversations. Those conversations highlighted a strong culture of professional development in the district and a model of teacher-inspired and teacher-led professional development best seen in the instructional technology professional development program and practices. Problems with creating an effective and sustained professional development program were also revealed, including

a blurred sense of purpose concerning teacher professional development as well as several barriers to implementation, chief of which are too little time for sustained learning and too many requirements that hinder teachers' time to engage in professional development.

The diagnosing phase enabled the establishment of the problem statement: There is no evidence that professional development in Corning-Painted Post is becoming integrated into teachers' everyday practice and contributing to an observable improvement within the school district. An overview of the professional literature concerning professional development confirmed that the issue within Corning-Painted Post is by no means a unique concern: Traditional teacher development practices are frequently not sufficient to create change in teacher practices that lead to corresponding change in student learning and achievement. Additionally, a synthesis of the literature revealed a variety of qualities that are important for creating effective professional development, including context and coherence with organizational goals, content-specific knowledge and teaching strategies, teacher autonomy and choice within their learning, collaboration, opportunities for active learning, incorporation of feedback and reflection, and professional learning that occurs over a sustained duration.

Chapter 2 presents details of the research design to address the problem of practice described above. Diverse methods were used to confirm the identified problem of practice and to design the remaining components of the MMAR method (Ivankova, 2015).

CHAPTER 2

RECONNAISSANCE PHASE

This chapter presents an overview of the purpose for the research, followed by a description of the Reconnaissance Phase of the study. This section includes the research questions that inform the Reconnaissance Phase, the results of analyses of existing district data, the meta-inference derived from those results, data gathered through meetings with district administration and discussion of findings from the Reconnaissance Phase. The chapter continues with an exploration of the logic model that helped determine the intervention and a presentation of supporting literature relevant to the chosen intervention. The chapter closes with a discussion about quality assurance and ethical considerations for this study.

Study Purpose

The purpose of this mixed methods action research (MMAR) (Ivankova, 2015) was to transform professional development practices within the Corning-Painted Post school district in order to ensure that it is structured to create real change in the classroom practices of teachers. The goal of the Reconnaissance Phase was to determine effectiveness of current professional development practices through using a concurrent design that collected and analyzed effectiveness ratings of professional development offerings. Teachers' written feedback on the most recent district-sponsored professional development informed development of new opportunities. The goal was to identify what supports the internalization, retention, and utilization of classroom practices by teachers that enhances student learning in the district.

Reconnaissance Phase Introduction

This phase of the MMAR process was a fact-finding period in which "a preliminary assessment of the identified problem or issue [was] conducted in order to develop a plan of action/intervention" (Ivankova, 2015, p. 61). In this section I describe the methods and procedures I utilized to assess the problem of professional development in Corning-Painted Post school district. I gathered and analyzed both quantitative and qualitative data using reconnaissance-oriented research questions to guide me.

Methods and Procedures

Throughout the Reconnaissance Phase of the study, I utilized a variety of methods and procedures to help me assess what is preventing teachers from utilizing knowledge gained through district designed and delivered professional development activities. District leaders wanted to understand what was hindering the effectiveness in current professional development in terms of changing teacher classroom practice and leading to positive changes in student learning and achievement. To gather this information, I used a variety of instruments to help me pinpoint the nature of the problem of practice. Data included responses on feedback surveys completed by teachers after different professional development opportunities as well as several district documents and resources related to the professional development program.

Research Questions

The research design allowed me to examine both qualitative and quantitative data concurrently and to use data from one strand to inform the other. The goal of the qualitative strand was to analyze teacher written feedback following sessions and district documents to determine what characteristics of effective professional development that

teachers identified as effective. In the quantitative strand, the goal was to determine the effectiveness of the professional development based on teachers' ratings on surveys. To guide this Reconnaissance Phase research, I created guiding questions for the quantitative and the qualitative design strands that are presented in Table 2.1.

Table 2.1

Reconnaissance Phase Guiding Questions

Research Strand	Guiding Questions
Quantitative Strand	1. Which effective characteristics are present in current professional development opportunities offered by the district? 2. Which effective characteristics are absent in current professional development opportunities offered by the district? 3. Does the presence or absence of these characteristics correspond to teachers' requests for more professional development in a specific area?
Qualitative Strand	1. To what extent do teachers comment on the presence or absence of specific characteristics of effective professional development? 2. What types of professional leading do teachers want? 3. What elements of professional development did teachers identify as needed?

Design

The goal of the qualitative strand within the Reconnaissance Phase was to gain an overall perspective of teachers' assessments of the effectiveness of professional development. Through analyzing already-collected district data, I was able to note similarities, draw conclusions, and make inferences about current professional development offerings. Teachers' post-event perspectives were gathered via ratings they provided on district-administered surveys following previous professional development experiences. I gathered their written feedback into categories based on the characteristics of effective professional development and then examined the relationship between the literature-recommended characteristics and the ratings provided by the teachers. The goal

of the qualitative strand was to determine the extent to which teachers perceived the district professional development incorporated the qualities of effective professional development; thus, I reviewed teachers' written feedback on district documents and resource. . District documents and resources also provided a means for me to determine the extent to which the structures of current professional development offerings incorporate characteristics of effectiveness reported in the literature.

Quantitative data gathered by the district were based on Likert-scale prompts, with 1=lowest rating and 5=highest rating; no defining descriptions for the other three options were noted on the surveys. Review of the qualitative data provided a deeper understanding about what the participants liked or found lacking in their professional development experiences as well as what participants want to experience in future professional development opportunities. Hence, analyzing qualitative data during the Reconnaissance Phase became a priority.

Integration of the two types of data produced meta-inferences, where qualitative data informed and expanded interpretation of quantitative data. These inferences helped me to determine the type of an intervention that would assure professional development experience that teachers wanted and professional learning that would be more effective, retained and internalized by teachers, and lead to noticeable changes in their classroom practices.

Study Participants

The sample for the Reconnaissance Phase of this study included multiple groups of educators. The first were the 94 teachers who responded to a professional development evaluation survey in August 2019; these were among the 224 teachers who attended the

professional development event. Their responses were anonymous and did not indicate teachers' school level or content area. The second sample included 104 teachers who provided feedback on a survey evaluating the effectiveness of the Staff Development Day conducted in January 2020; this professional development was required for all teaching staff. The third group of study participants during the Reconnaissance Phase included participants at a district meeting (i.e., superintendent of schools, assistant superintendent of secondary education, assistant superintendent of elementary education) held at the district office in early December 2020.

Data Sources

Both quantitative and qualitative data were gathered through surveys distributed to teachers by the Office of Curriculum and Instruction following professional development activities in August 2019 and January 2020. Quantitative data were generated through a numeric rating (i.e., 5-option Likert scale) when teachers responded to close-ended evaluation questions; qualitative data were generated through teachers' responses to open-ended prompts on the same survey. Using teachers' responses to the open-ended questions, I was able to assign numeric values based on the characteristics of effective professional development that (a) they perceived were effective in their professional-development experiences and (b) they desired in future professional-development options offered by the district. Additional qualitative data were generated during the meeting with district administrators regarding the state of the current professional development program.

Data Analysis and Integration

The data examined in the Reconnaissance Phase provided insight into the current state of professional development in the Corning-Painted Post school district. Analyzing and integrating these data provided insight into the guiding questions established for this phase of the research study.

Quantitative guiding questions. The three quantitative-oriented guiding questions provided data to inform the Reconnaissance Phase of the study:

1. Which effective characteristics are present in current professional development opportunities offered by the district?
2. Which effective characteristics are absent in current professional development opportunities offered by the district?
3. Does the presence or absence of these characteristics correspond to teachers' requests for more professional development in a specific area?

Results from the first guiding question, regarding the overall effectiveness of current professional development opportunities, are displayed in Table 2.3 (the entirety of which is included in Appendix A) and in Table 2.4. These existing data sets were gathered during the 2019 August Days Professional Development Workshops and the January 2020 Staff Development Day, respectively. Appendix A indicates an overall applicability rating for the August 2019 workshops of 4.5 out of 5 (with an individual workshop low of 3.2 and a high of 5.0) and an overall quality rating of 4.6 (with an individual low of 2.7 and a high of 5.0).

August Days are and optional professional development opportunity for teachers working in the district; there were 30 sessions offered and participants chose which

sessions they wanted to attend. Professional development opportunities focused on (a) strategies for teaching specific content areas, (b) sessions on use of instructional technology, (c) tactics for effective classroom management, and (d) district initiatives, such as student mental health and Responsibility Centered Discipline. Other opportunities included hands-on offerings, such as CPR Training, and content-specific learning opportunities as well as those emphasizing strategies for reading instruction and mentor text work.

Table 2.2

Teacher Ratings of Professional Development Workshops, August 2019

Workshop Title	Total Number of Evaluators	How would you rate the applicability of workshop content to your teaching?	How would you rate the quality of the workshop?
Addressing Mental Health Concerns in the Classroom Part I	24	4.7	4.7
Addressing Mental Health Concerns in the Classroom Part 2	20	4.7	4.6
Combine Google Classroom, Screencastify and EdPuzzle to Deliver Online Instruction	11	4.3	5.0
CPR Instruction	12	4.5	4.8
Google Sites	22	3.9	4.3
Read Aloud with Accountable Talk	12	5.0	4.9
Responsibility Centered Discipline – Advanced Skills Training	13	5.0	5.0
Using Mentor Texts to Teach Writing	15	4.8	4.6
Total Average		**4.6**	**4.7**

Table 2.3 displays the effectiveness ratings and the expressed preferences for further professional learning for the two January 2020 Staff Development Day sessions. Unlike the 2019 August Days sessions, all staff were required by the district to attend

these trainings, which were determined and designed by district administration and which introduced to the faculty two new district initiatives (i.e., Equity Practices, Trauma Informed Practices).

Table 2.3

Teacher Ratings of Staff Development Day, January 2020

Training	Effectiveness Rating			Desire for Further Professional Development in this Area		
	Overall Mean	Median	Mode	Yes	Maybe	No
Equity Training	3.89	4	4	52	52	34
Trauma Informed Practices Training	4.15	4	5	93	27	18

While the effectiveness ratings for both sets of trainings were relatively high, the August Days professional development sessions received higher ratings than either of the January sessions. The main differences between the two events were that the elements of choice and immediate relevance to the teachers' classroom environments were integrated into the August Days sessions but were not part of the January experience. Further insight into teacher perceptions of both the August and January experiences was provided through long-answer responses. Coding those responses to open-ended questions using the seven characteristics of effective professional development as indicators permits further exploration of perceived effectiveness within the data.

Table 2.4, which displays an analysis of August Days opportunities, indicates that *autonomy*, *choice*, and *content-specific learning* were highly rated and identified as a strength of those professional development experiences Both *autonomy* and *choice* were lower in the January 2020 Staff Development Days (see Table 2.5). The Equity Training session received higher marks on *active learning*, and the Trauma Informed Practices,

related to a long-running district initiative on student mental health, was highly rated in the area of *context/coherence*.

Table 2.4

Professional Development Requests by Characteristics, 2019 August Days

Professional Development Characteristic	What were the strengths of August Days as they were held this year?	What would you like to see for August Days next year?
Active Learning	1	8
Autonomy/Choice	31	4
Collaboration	13	6
Context/Coherence	11	3
Content-Specific Learning	19	35
Feedback/Reflection	1	0
Sustained Duration	0	5
Totals	76	61

Seeking answers to Reconnaissance Phase Question 3 (*Does the presence or absence of these characteristics correspond to teachers' requests for more professional development in a specific area?*) provided the greatest insight concerning needed changes to district-provided professional development. The 2019 August Days data did not indicate characteristics that participants felt were missing but did indicate that they hoped for sessions that incorporated *content-specific learning* in future opportunities. Comments from the January 2020 Staff Day data indicated that both sessions lacked content-specific data, particularly *sustained duration* (i.e., follow up) that teachers indicated is critical. It is interesting that for this session participants noted the lack of *sustained duration*, as the absence of that characteristic was not considered an issue during the August sessions. The January sessions, however, introduced new and weighty district initiatives, on topics

that involve the role of schools in social issues. Teachers felt they had just enough information to realize that they did not know enough about the topic, and that they did not have tools to use what they had learned. Most of the August sessions dealt with teaching strategies of techniques, an area of greater comfort for most educators.

Further examination of both data sets revealed areas where important professional development components were missing. For example, teachers' responses to the 2019 August Day sessions suggest that there were more characteristics of effective professional development in that event than those offered during the January 2020 Staff Day. The August 2019 sessions led by teachers and professionals who work for Corning-Painted Post were rated more highly relevant to teachers in large part because they incorporated topics, programs, and strategies that had been vetted by participants' peers, that those peers already knew were useful and valuable to prospective participants. The also highlighted programs and resources that the district already owned, that referenced district initiatives, and that offered opportunities for future collaboration with staff who were adopting the same practices.

Further analysis, however, revealed some areas of concern about teacher-designed professional development. For example, teachers indicated these activities provided limited opportunity for *active learning, feedback and reflection, sustained learning,* or *collaboration.* Essentially, while many sessions were clearly informative and enjoyable, some did not include components that are deemed most effective in creating and sustaining long-term change in the classroom. Further, while the sessions may have provided interesting learning, they were not structured to initiate change or to measure

potential change. Therefore, though they were enjoyable experiences, they were not especially valuable professional development experiences.

Areas of weakness were apparent in the data from the January 2020 Staff Development days. In addition to little or no evidence of *active learning, collaboration, content-specific learning, feedback and reflection,* or *sustained duration* in any of the sessions, teachers responding to the survey indicated there was also no *autonomy* or *choice* involved in this professional learning event. Those absences were clearly noted, with more comments related to which characteristics were missing than to those that were present in both the Equity Workshop (i.e., 32 comments about missing characteristics, 16 comments regarding present characteristics) and the Trauma Informed Workshop (30 missing to 16 present).

Further analysis was required to identify a connection between the characteristics that were not named and teachers' requests for further professional development opportunities provided interesting outcomes. Table 2.4 indicates that teachers viewed *content-specific learning* as a strength in the 2019 August Days sessions among those who attended sessions related to their areas of concentration. However, the additional requests for such sessions during future professional development days was overwhelming: There were more requests for professional learning that incorporated the *content-specific learning* characteristic (N=35) than the rest of the characteristics combined (N=26).

The absence of *content-specific learning* was also noted as a weakness of both sessions offered during the January 2020 Staff Day (Table 2.5); There were more requests for that characteristic between the two workshops (N=33) than identified

strengths between both workshops combined (N=32). That data highlights the fact that few of the characteristics of effective professional development were evident in either of the January sessions. The data from the January 2020 Staff Day session indicates that teachers also needed *sustained duration* following the session to enhance their professional development. Some teachers further suggested they had not received enough training to progress in implementing new knowledge and strategies in either Equity or Trauma Informed Practices.

Table 2.5

Feedback Comments by PD Characteristics, Staff Development Day January 2020

	Equity Collaborative Training		Trauma-Informed Practices Training	
Professional Development Characteristic	What were the strengths of today's session?	How could this session have been more effective?	What were the strengths of today's session?	How could this session have been more effective?
Active Learning	8	0	0	0
Autonomy/Choice	0	2	0	3
Collaboration	3	1	0	0
Context/Coherence	3	7	6	1
Content-Specific Learning	2	18	7	15
Feedback/Reflection	0	0	3	0
Sustained Duration	0	4	0	11
Totals	16	32	16	30

Data from both the 2019 August Days and January 2020 sessions evidenced a strong indication that teachers want professional learning that is effective (i.e., based on characteristics of effective professional development). In particular, these data revealed that teachers want *autonomy* in selecting their professional development, seek *content-*

specific learning that pertains to the content areas they teach, and need professional development that is supported over a *sustained duration* beyond its initial introduction.

Qualitative guiding questions. Three guiding questions produced qualitative data that added depth (i.e., intent, perspective, meaning) to the information generated through the quantitative. The questions guided this phase of the Reconnaissance Strand of the study:

1. To what extent do teachers comment on the presence or absence of specific characteristics of effective professional development?
2. What types of professional leading do teachers want?
3. What elements of professional development did teachers identify as needed?

The first set of qualitative data was derived from the same two surveys that yielded the quantitative data because both surveys also asked open-ended questions regarding the strengths of the sessions attended. The survey for 2019 August Days asked what participants would like to see in future sessions, and the survey regarding the January 2020 Staff Development Day asked how the sessions could have been more effective. Appendix B includes some of the comments that participants made following the 2019 August Days session, sorted into categories based on the characteristic of effective professional development that they represent. Appendix C does the same for the first of the January Staff Development Day sessions (Equity), while comments on the second of the January sessions (Trauma Informed Teaching) are included in Appendix D. Examining these responses provides insight into the qualitative strand guiding questions.

The first guiding question in this strand asks if teachers specifically comment on any of the characteristics of professional development. Comments supplied by

participants in the 2019 August Days session show that they do. For example, teachers ask for specific practices such as (a) “more hands-on activities” (*active learning*); (b) “More math, more writer’s and reader’s workshop ideas” (*content-specific learning*); and (c) “more time to talk about and practice these topics” (*sustained duration*). Their plea for increased depth and opportunity is consistent across the professional development characteristics: All characteristics of effective professional development are represented in the 2019 August Days comments, and such comments formed the bulk of the open-ended comments. The only comments not related to specific characteristics of professional development addressed logistics (e.g., location, parking, air conditioning).

Teacher comments regarding the Equity Workshop held in January 2020 also evidenced need for professional development that includes the characteristics of effectiveness, though this time with a greater level of frustration than in the comments of the 2019 August Days session. Teachers expressed a desire for (a) *context and coherence* (“I enjoyed the experience but would have liked it to be a little more specific to what's happening in the district”), (b) *content-specific learning* (“I like the interactive games and information. However, I would have liked real life application in to how we address equity in the classroom”), and (c) *sustained duration* (“Wish it had been more in depth with how schools can significantly chip away at this age-old dilemma”).

Comments regarding the Trauma-Informed Workshop held in January 2020 evidenced the same concerns. Teachers expressed wanting (a) *autonomy and choice* (“I was not excited spending another professional development day hearing the same things we’ve heard before when they are many other trainings I’ve asked for that I haven’t received”), (b) *content-specific learning* (“I feel that we need to again move towards

specific strategies that can be implemented within the classroom and within a building. I understand the research, I understand the purpose, but I need guidance with the change"), and (c) *sustained duration* ("Why is this just a 1.5-hour workshop? Why are these important things discussed briefly once in a while? Where do we go from here?").

The comments provided by teachers indicate that they want professional development that is effective and that encompasses the seven identified characteristics of effective professional development. Again, *content-specific learning* emerged as the main request. For example, comment by a teacher who attended the Trauma Informed workshop in January 2020 voiced appreciation that the session "gave ideas we can implement in our classrooms and in the high school very easily." Another teacher who attended a 2019 August Days indicated identifying "subject specific workshops" that are "pertinent to my area" as a strength. *Collaboration* was also defined as beneficial to professional development, as noted in a January 2020 Equity Workshop comment: "I liked their small group activities. It was refreshing to meet and talk with my colleagues that I have never met before." *Context and coherence* is another important characteristic for teachers, evidenced by one who asked district leaders following the January 2020 Equity Workshop to "Please continue to offer PD to help identify areas in need of improvement in our district (racial disparity and solutions)." Others noted that they appreciated how the January 2020 Trauma Informed Workshop corresponded with other professional learning. For example, one teacher wrote that the workshop integrated well "with a book study I am doing, and class on Emotional Poverty put on by BOCES last summer." Teachers' comments emphasized again that teachers want professional development in which they (a) have freedom of choice, (b) participate actively, (c) gain

knowledge regarding initiatives underway in their school and district, (d) learn strategies applicable to their daily teaching responsibilities, (e) work collaboratively with colleagues, and (f) practice using new strategies and information across a sustained duration. Few comments within these data mention need for Feedback or Reflection (Darling-Hammond et al., 2017). Because those two processes are often not part of traditional professional development, it is likely many teachers do not equate them with professional learning. The types of experiences that teachers indicated they want or that they request would be congruent with the implementation of feedback and reflection.

District Support for Proposed Intervention

Additional qualitative data concerning this project emerged during a meeting with the superintendent of schools, assistant superintendent for secondary education, assistant superintendent for elementary education, and me in early December 2019. During the diagnostic phase of the study, I interviewed both assistant superintendents regarding professional development, and we had several follow-up conversations that led to the request for a meeting to discuss my dissertation proposal. During that meeting, I presented my findings regarding professional development, my perceived problem of practice (i.e., professional development at Corning-Painted Post, while prevalent and culturally meaningful, often fails to lead to sustained change in teacher behavior), and my proposed intervention.

During that meeting, all three administrators agreed that there was a problem of sustaining change through professional development in the district and that an intervention such as the one I proposed could potentially benefit the district. The three district leaders were interested in the prospect of teacher-conducted action research as the

intervention. They perceived that the built-in checkpoints of the project, along with the collaborative and reflective aspects of the plan, would help with evaluating effectiveness of the professional development, which they identified as something that was hard to do and not often part of current practice. At this time, they also asked me to implement the professional development opportunities during the Fall 2020 semester and offered various supports for the project (e.g., use of district resources, professional development credit for participants, additional resources as needed). Though this timeline was later delayed due to Covid-19-related circumstances, the district leaders made a point that they wanted the project to continue during the 2020-2021 school year. They felt that the project would both give teachers choice and inspiration during a challenging year, and that it would send the message that professional learning does not stop, regardless of the whatever other hurdles are in place.

During this meeting, the superintendent noted that he felt that teachers would be eager to explore such a process because it would provide them opportunities to try strategies that they might have wanted to try but had struggled to find time to implement. This conversation confirmed that district leaders believe that problem of practice framing the study does indeed exist and that they want to explore the proposed intervention to enhance the current professional development program.

Findings from the Reconnaissance Phase

The second phase of the MMAR model (Ivankova, 2015) confirmed that teacher professional development in Corning-Painted Post frequently fails to lead to changes in teacher practice even though the teachers generally value professional development. Examination of quantitative data indicated that teachers were not dissatisfied with

professional development when they are granted the autonomy to select their own professional learning; however, they expressed a desire to have opportunities that are more aligned with the characteristics of effective professional development. Specifically, some of the characteristics most associated with consistent and lasting change are *collaboration* (Cunningham et al., 2015; Darling-Hammond et al., 2017; Darling-Hammond & Richardson, 2009; Pharis et al., 2019; Wei et al., 2009) and *sustained duration* (Darling-Hammond et al., 2017; Darling-Hammond & Richardson, 2009; Pharis et al., 2019; Slepkov, 2008; Wei et al., 2009; Zehetmeier, 2014). Significantly, the problem of practice, initially identified through secondary analyses of existing district data was further confirmed during the meeting with district administrators, including the superintendent of schools who expressed interest in implementing classroom-based action research as a form of professional development.

Logic Model

Logic models "are a graphic way to organize information and display thinking" (Knowlton & Phillips, 2012, p. 4). Through the construction of a logic model, it is possible to visualize the different parts of a study, determine relationships among data, and gauge the flow of information and data throughout the study process. In my logic model (Figure 2.1), I identify assumptions regarding professional development at Corning-Painted Post as well as inputs and resources that are already available as part of the organization that supports the study. The logic model displays various activities identified as essential components of the study and the anticipated outputs of those activities. Finally, outputs in relation to a series of outcomes that are the overarching goal of the study are likewise displayed in the logic model.

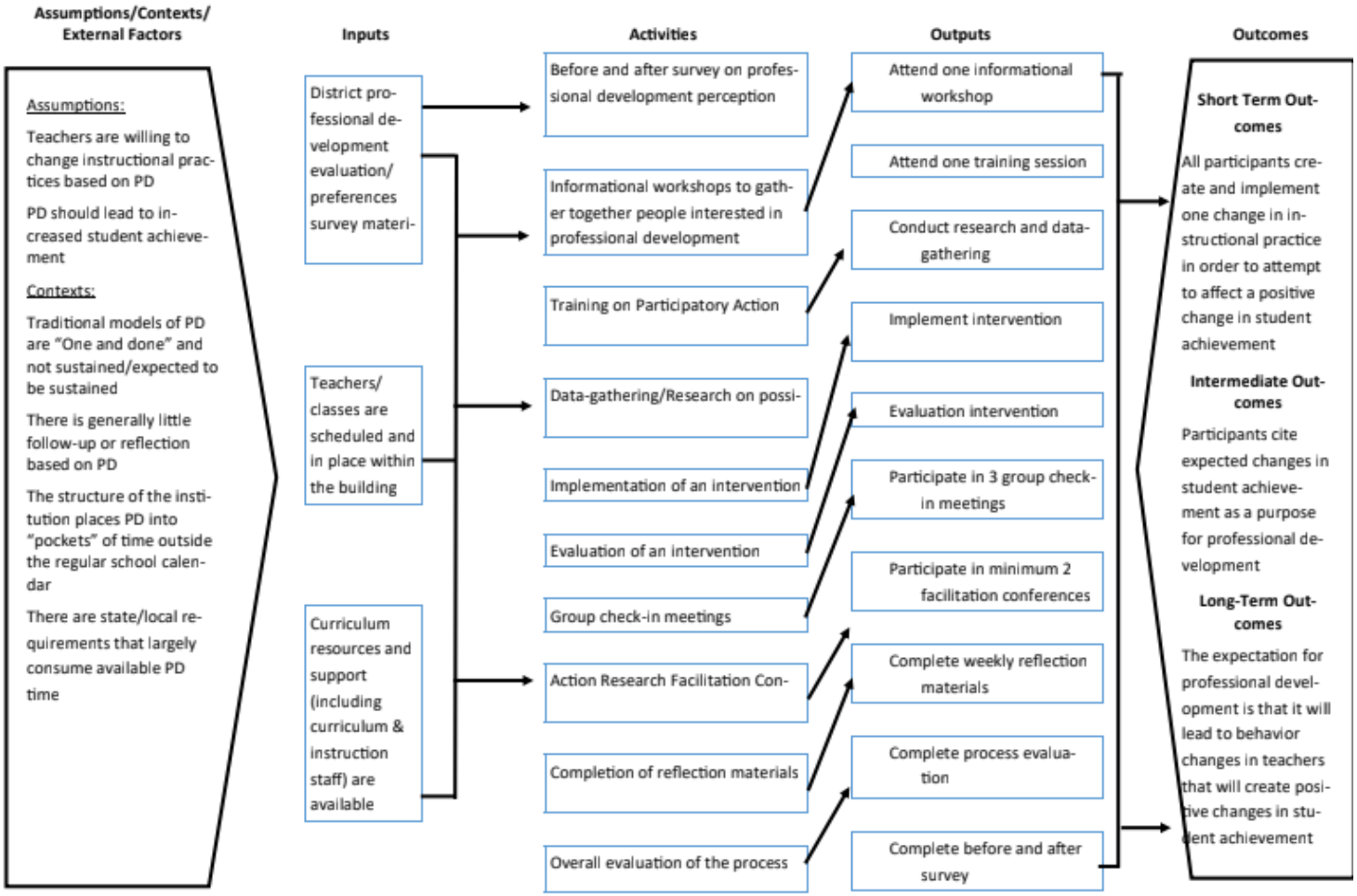


Figure 2.1 Logic Model for a proposed Mixed-Methods Action Research Study utilizing action research as professional development.

Supporting Literature on Intervention

The professional development program at Corning-Painted Post has much to recommend it because there are internal and external motivators for teachers to pursue professional learning. District leaders are both supportive and involved in professional development, and there are established expectations that professional development can take many forms and that it should be collaborative. However, there are areas in which the program needs improvement. Specifically, there are few sustained professional learning offerings, very few reflective components, and limited data-based evaluation of the effectiveness of professional development opportunities provided for teachers. An appropriate professional development intervention for Corning-Painted Post must meet several criteria. First, it must be feasible to implement with available resources. Second, it should (a) align with the district's professional-development values of choice and autonomy, (b) support teachers as the experts and leaders of the professional learning, and (c) incorporate teaching of content area learning and strategies. Third, it must align with district and building goals and guiding documents, including the New York State Common Core and Next Generation Standards and the International Baccalaureate Aims and Objectives.

Although the literature is extensive about what effective professional development is, there is not one strategy or system that has definitively established itself as *the one best way* to provide professional learning for teachers. In fact, different types of professional development vary in their success based on the teachers involved and their backgrounds (Desimone & Garet, 2015). Nonetheless, there are models and characteristics of professional development shown to lead to the end goal of sustained

change in teacher behavior, which in turn leads to increased student learning and achievement (Darling-Hammond et al., 2017; Guskey, 2017; Zehetmeier et al., 2014). A variety of methods, both established and theoretical, would be highly effective for teachers in the Corning-Painted Post school district. For example, one teacher representative on a committee suggested that teachers could become 11-month employees, with the additional month devoted to intensive professional learning. This would create great flexibility in programming, along with time for teachers to truly develop and implement diverse strategies. However, not all teachers would be willing to work an additional month, and a professional development solution like that would cost the district nearly three million dollars annually, which is hardly a practical first step.

Other models, such as instructional coaching, have proven to be highly effective professional development models. Coaching provides support for the implementation of new resources, strategies, and curricula, and teachers who receive effective coaching are more likely to change their teaching practices permanently (Darling-Hammond et al., 2017). Coaching can also include various modeling and support strategies such as (a) examining video or written lessons, (b) viewing demonstration lessons taught by the coach, (c) examining and developing curriculum materials, and (d) having opportunities to observe and then reflect on peer practices (Knight, 2018). The combination of these resources along with expert coaching for teachers correlates with the greatest gains in student achievement (Darling-Hammond et al., 2017). Again, however, instituting such a model would be costly for the district and thus is not a feasible intervention at this time.

Action Research for Teacher Learning

Another inquiry-based learning model that has received a great deal of attention as a professional development process is action research. Action research has many definitions: Some are simple, such as "a process that involves three sorts of activities—asking, analyzing, and acting" (McLaughlin, Watts, & Beard, 2000, p. 9), while others are complex.

> Action research is a critical and self-critical process aimed at animating transformations through individual and collective self-transformation: transformation of our practices, transformation of the way we understand our practices, and transformation of the conditions that enable and constrain our practice. (Kemmis, 2009, p. 463?)

As a process, action research developed out of a practical need—for professionals to understand what was going on in their field (Nolan & Putnam, 2007). The intent of action research is to (a) define a problem, (b) investigate and implement solutions, and (c) reflect on the results, thereby quickly and effectively generating new practices resulting from the action (Somekh & Zeichner, 2009).

With this focus on creating new practices, action research lends itself to teacher professional development, particularly when the goal of changing teacher behaviors is to affect student achievement. Jacobs and Cooper (2016) celebrate action research as a process that "involves teachers in making change happen" (p. 13). Kemmis (2009) further details the types of change that action research causes to happen, defining it as a threefold change process of changing individuals' *practices*, their *understandings* of their practice, and the *conditions* under which they practice.

Change, in effect, is the entire purpose and focus of action research. While there are many iterations of the action-research process, all of them involve identifying a

problem, investigating it, collecting and analyzing data about it, and moving forward to create change (Zambo, 2007). Action research is a dual and active process in which practitioners are generating research knowledge and performing actions to create change simultaneously. The reflective component of action research then transforms the process into a cycle: Reflection on the intervention provides the impetus for the generation of the next problem or question, which requires the cyclical process to begin again (Parsons, Hewson, Adrian & Day, 2013). Embedded within that cycle are three basic components: inquiry, action, and reflection.

Teacher action research and inquiry. Educational action research is a form of systematic inquiry that allows teachers to focus on a specific aspect of their practice in order to enact meaningful changes to address the problem (Brighton, 2009). During the process, data are gathered about how particular schools or classrooms operate, and how teachers teach and students learn, thus creating a metacognitive understanding of the teaching and learning processes of the school (Nolen & Putten, 2007). In effect, all classrooms become research settings, in which teachers use their actions and their students' responses to understand and improve upon their practices (Di Lucchio, Leaman, Elicker & Mathisen, 2014). In the process of examining these practices, teachers must closely examine the behaviors of both themselves and their students, ask questions about how learning and teaching happens in the classroom, and critically examine the purpose and process of these practices (McLaughlin et al, 2000). This inquiry leads to a deeper understanding of many different components of the educational system, including the structure and system of an individual school (Calhoun, 2002), teachers' own teaching

practices and their personal motivations (Zeichner, 2003), and students and their needs (Nolen & Putten, 2007).

Along with the questioning aspect of inquiry, teachers conducting action research seek solutions to identified issues by gathering and analyzing data and exploring professional literature to develop potential solutions to the problems they identify within their classrooms. Sagor (2011) refers to this as *descriptive research*, a process of trying to determine what to do about a problem that is apparent but not clearly understood. The process of defining problems and determining potential solutions is a task that can be empowering, putting teachers in charge of their own problem-solving and professional growth (Mertler, 2014; Yigit & Bagceci, 2017). This dual process of inquiry, identifying a problem and identifying solutions for the problem, supports teachers' professional growth, autonomy, and reflective practice that comprises the third piece of the action-research spiral. According to Hardy and Ronnerman (2011), the process of engaging in inquiry is the ultimate impetus for changed teacher behavior in the classroom because it generates a broader understanding of both individual practice and the context in which that practice is conducted (Hardy & Ronnerman, 2011).

Implementing action in action research. Interestingly, the eponymous action step of action research is generally the step that receives the least focus: It almost serves as a bridge between the inquiry and reflection steps that form the continual regeneration points of the action research spiral. Change is the goal of action research, and some argue that that process of transformation, with its inherent development of increased understanding of one's own professional practice and incorporation of new ways of practicing, is itself a success, regardless of measurable outcomes of the change (Kemmis,

2010). Acting with change as a motivator opens the door to more changes in the future, creating a process in which teachers are freed to investigate and act on problems individually and collaboratively (Sales, Travera, & Garcia, 2011), try out and refine solutions quickly in their own classrooms (Netcoh, Olofson, Downes & Bishop, 2017), and become more effective and skillful practitioners (Tomlinson, 1995).

The action step, when new solutions are tested, allows teachers to work on problems that are immediate and pressing to them and to investigate solutions to those issues in the most effective place—the setting where the problem naturally occurs (Tomlinson, 1995). If those solutions are not successful, the result is not a failure; rather, it is evidence that more data need to be gathered in the next iteration of the cycle. The desired outcome is change: By implementing a potential solution, a teacher changes her or his behavior, learning what may or may not affect the problem, and moving one step closer to success (Mertler, 2014).

Reflection in the action research process. While there are many different models of action research, from Stringer's (2007) three-step process of look-act-them to Ivankova's (2015) intensive six-step model, they all have inquiry and reflection as the alpha and omega of the process—the twin peaks of thought and analysis that both initiate and maintain the action research cycle. The reflection component is what makes the process cyclic: It is where action is evaluated, and new inquiry is generated. Parsons and colleagues (2013) merge inquiry with reflection, describing the cycle of action research as a spiral movement from reflection to action and back again. This duality of the reflective process is what makes action research a *meta-practice*, a practice that changes other practices (Kemmis, 2009). By engaging in the action-research cycle, teacher-

researchers alter their professional practice. Reflection is what spurs that practice-changing action, and in the process, allows teachers to ask questions about themselves and their professional practices that lead to sustained change (McLaughlin et al., 2000; Mertler, 2014). Additionally, the reflective step allows teachers to examine the problem of practice they investigated more critically, thus gaining more collective views of the situation, opening their perspectives wherein they are more likely to see their classroom as a piece of a whole, which can ultimately lead to fostering schoolwide collaboration and problem solving (Elliott, 2015). Stenhouse (1975), one of the earliest proponents of teachers as action researchers, asserted that it is not enough that teachers' work is studied; rather, teachers need to study their own work themselves. Reflection is the heart of self-study and the progenitor of change in practice.

Action Research as Professional Development

While action research is a recognized professional-development strategy, there are many different methods of teacher learning that have shown positive results. Nonetheless, in the Corning-Painted Post school district, action research is the correct intervention because it incorporates both the cultural values of the district toward professional development and the characteristics of effective professional development.

Organizational professional development values. During the Diagnostic Phase of the study, it was determined that professional development is highly valued at Corning-Painted Post and that teachers particularly value professional development that is teacher centered. They want to participate in professional development delivered by their fellow teachers who provide active learning opportunities aligned with and relevant

to the practices, resources, and direction of the district. Three facts make action research highly relevant to the practitioners:

1. It focuses on authentic and relevant problems that can be systematically addressed (Brighton, 2009).
2. It assures the central role in creating and evaluating solutions to problems identified by teachers (Tomlinson, 1995).
3. It generates solutions that are developed, evaluated, and shared with colleagues and school leaders (Calhoun, 2002).

Under the action-research umbrella, every teacher is the expert researcher in her or his classroom and are able to create and implement changes that are self-influential, thus creating the changes that they need and want (Yigit & Bagceci, 2017).

The process of classroom-based action research also provides an affirmation of professionalism that teachers at Corning-Painted Post seek: It allows them to choose their own areas of needed study, approach problem solving in the way that appropriate for the setting, and develop their own evaluation of the intervention, refining it as necessary (Mertler, 2014). Through this process of identifying and solving their own problems, teachers are able to rekindle and reaffirm their enthusiasm and excitement for teaching (Zeichner, 2003), which the high levels of participation in professional development at Corning-Painted Post demonstrate is another value of the organization.

Effectiveness of action research. In addition to meeting cultural values of the organization in terms of the structure and arrangement of professional learning, action research as a professional learning practice also encompasses the seven identified characteristics of effective professional development. The presence of these elements are

predictors in building professional development programs that meet the end goal of professional development: creation of sustained, changed teacher behavior that leads to corresponding positive changes in student achievement and learning. The characteristics are (a) *context and coherence*, (b) *content specific strategies*, (c) *autonomy and choice* in both the topic and process of professional learning, (d) incorporation of *active learning* opportunities, (e) *collaboration*, (f) *feedback and reflection*, and (g) professional learning that occurs over a *sustained duration*.

Context and coherence. Professional learning occurs best when it happens within the framework of other programs or initiatives occurring within the teacher's school or district (Darling-Hammond et al., 2017; Desimone & Garet, 2015). Action research in the classroom can focus on whatever problems that teachers identify, and thus, they are able to choose topics for their own investigation that correspond to those their school is exploring. Through their research, Haggarty and Postlethwaite (2003) noticed that action research often creates learning that is more easily associated with the contexts in which teachers are learning and working. While it was usually difficult for teachers to draw connections between their learning and their professional contexts, they were able to discuss the impact of school context on their work. According to Sales and colleagues (2011), when teachers engage in action research, they support whatever initiatives are in place because action research helps to create an environment in which change and creating change are comfortable and valued. Further, when action research projects are conducted in schools, teachers develop ways of exploring and implementing initiative-driven solutions themselves (Calhoun, 2002).

Content-specific learning. Professional development has a strong effect on teachers' practice and is therefore more likely to lead to sustained change, particularly when a teacher's own content knowledge is expanded through the professional learning associated with action research (Darling-Hammond & Richardson, 2009; Desimone & Garet, 2015). Content-specific learning was identified as one of the primary requests for professional development among Corning-Painted Post teachers. Action research is a tool through which teachers explore problems about which they are interested and which they identify in their own classrooms (Clarke & Fournillier, 2012). Action research allows teachers' professional learning to focus on the learning needs of students that they have identified within their own classrooms and content areas.

Autonomy and choice. The ability of teachers to choose topics for their professional learning and to have input regarding when and how to explore those topics leads to increased satisfaction with professional learning and more successful outcomes (Darling-Hammond et al., 2017; Wei, et al., 2009). Many researchers cite increased autonomy as a major benefit of action research because teachers can direct their own learning towards their own areas of interest and perceived need (Di Lucchio et al., 2014; Mertler, 2014; Yigit & Bagceci, 2017). The freedom of teachers to direct their own professional learning (Zeichner, 2003), identify what change is needed (Netcoh et al., 2017), and share and reflect on their practices with other teachers inspires them to adopt changes in their own classroom that have been successful for their colleagues (Elliott, 2015).

Active learning. One of the most ignored elements of professional development is active learning, despite findings that show active, hands-on learning is more aligned with

sustained change in teacher practice than most other opportunities (Cunningham et al., 2015; Darling-Hammond et al; 2017; Desimone & Garet, 2015). As its name suggests, action research utilizes active processes. All steps of whichever research design teachers follow involves a high level of activity on the part of the teachers: They choose the topic and direction of the inquiry, gather and analyze data, select and implement an intervention, and reflect upon the results of that intervention (Kemmis, 2009; Sagor, 2011; Yigit & Bagceci, 2017). Through this cyclical activity, teachers are heavily involved in their own learning process, both intellectually (Zeichner, 2003) and practically through the decision-making and implementation process (Kemmis, 2009). Because teachers design and conduct action research in their work settings, the level of active, hands-on learning is immense.

Collaboration. Every successful professional development model incorporates collaboration in some way (Cunningham et al., 2015; Darling-Hammond et al., 2017; Pharis et al., 2019; Wei et al., 2009). Although action research in the classroom may conducted by a sole practitioner, students and potentially the broader school community may need to be engaged in the process to some degree (Netcoh et al., 2017). However, action research as a practice encourages a much higher level of genuine collaboration because teachers with similar problems work together, encourage each other, and share their results with each other (Zeichner, 2003). That sharing encourages others to participate in similar interventions or in action research itself, spreading both the practice and the tested changes throughout the school environment (Sales et al., 2011). Action research projects are often more successful when they are conducted collaboratively, in an environment where teachers can engage actively in the reflective practices and skills

of their colleagues, which supports them in developing those skills themselves (Zeichner, 2003). The practice of conducting action research with other teachers has been shown to increase teachers' belief in the effectiveness of collaborative approaches overall (Zeichner, 2003). Action research conducted at a schoolwide level is naturally collaborative (Calhoun, 2002) because the process ensures that everyone is represented and able to explore the problem through the lens of their own perspective (Kemmis, 2009; Sales et al., 2011).

Feedback and reflection. Traditional teaching with one adult in the classroom required making rapid and intuitive judgements regarding what to do in a situation (Elliott, 2015). However, the complexity of modern classrooms and the rapid pace of change call for a more reflective practice. Whereas Trotter (2006) identifies reflection as a critical component to successful adult learning, Slepkov (2008) argues that sustained change cannot occur without the definite decision to make and adhere to that change made in the process of reflection. Action research is a reflective process, with emphasis on adjusting professional practice based on the examination of gathered data (Mertler, 2014). Teachers involved in action research have reported that they learned to examine their own teaching regularly in a more purposeful and analytic way (Zeichner, 2003). Feedback is essentially collaborative reflection, wherein an individual reflects on the work of another, sharing her or his thoughts and ideas with that individual with the goal of helping the other improve her or his practice. Reflection, both individual and communal, enhances collaboration with peers, stimulates change, and produces a more social view of learning and teaching (Elliott, 2015; Tomlinson, 2995).

Sustained duration. Professional development practices that occur over a sustained duration integrate multiple characteristics of effective professional development, such as active learning, collaboration, feedback, and reflection. Thus, it is logical that practices that occur over a sustained duration lead to more sustained change than those that do not (Boyle et al., 2004; Darling-Hammond et al., 2017; Slepkov, 2008). Action research is a cyclic process that by necessity occurs over a sustained duration because it comprises inquiry, selection and implementation of an intervention, data collection, and evaluation. Throughout this process, teachers have ample opportunities for reflection, peer collaboration, active learning, and intellectual engagement (Zeichner, 2003). The ongoing nature of this sustained practice allows teachers to develop and test their own solutions and to receive feedback from others, which heightens the probability of their changing their behaviors. While conducting action research on one's own practice produces self-directed learning; sharing outcomes with peers is an optimum form of professional development for teachers.

Enhanced Professional Development through Action Research

While the end goal of educational professional development is change in teacher behaviors that increases student learning, a less emphasized but perhaps equally important component of professional learning is increasing professionalism among teachers. Professional learning should provide teachers with the tools to respond and act professionally in a variety of settings (Zehetmeier et al., 2014). One such tools is the development of a theoretical practice, which provides teachers with research-based responses with which to respond to a variety of situations. The vaunted theory-practice gap (i.e., the distance between those who conduct and report research and the teachers

who are practicing in the field) can get in the way of the implementation of research-based practice (Johnson, 2005). Action research, where teachers are researchers in their own classroom, analyzing their own problems, utilizing the research of others to devise solutions, and collecting and evaluating data, can help bridge this gap. Action research provides teachers with a system for using theoretical research in their practical, workplace settings. The issue is not so much the need to close a gap between theory and practice, but to close a gap between the roles of theorists and practitioners (Kemmis, 2009). Teachers conducting action research fill both roles (i.e., theorist, practitioner), learning the importance of each and developing the skills to merge theory and practice to improve their own professional practice. Therefore, teachers develop theory-based practices in which they are test, use, modify, or discard theories in the process of generating their own theories and enriching their practice (Haggarty & Postlethwaite, 2003).

Quality Assurance and Ethical Considerations

To ensure the quality of the Reconnaissance Phase of this study, data previously collected by the district were utilized, with the permission of the Superintendent of Schools (see Appendix P) to identify the core problem of practice to be addressed in this research project. Conducting secondary analyses of existing data helped to guard against researcher bias since the surveys producing the data analyzed were administered independently by the district. Further, the survey respondents were anonymous, which encouraged honesty and completeness in teachers' responses. All study data were utilized with the permission of district administrators and the representatives of the Corning Teachers' Association.

Several processes were implemented to ensure ethical research practices in my own intervention. The recruitment process, recruitment materials, and data-gathering instruments utilized in the study were all evaluated by the IRB. That organization suggested several changes and protections, all of which were implemented. The most comprehensive of those was a process to ensure that participants who work in my building, and who answer to me as a direct supervisor, did not feel coerced to participate in the study. Per the IRB's recommendation, after I introduced the study opportunity to the entire district faculty through email, a separate email was sent just to teachers in my building. That email guaranteed that any teachers under my supervision (i.e., evaluated by me) could participate in the professional development opportunity, but their data would not be included in the study. Therefore, they would have the benefit of participating if they wanted to, but I would have no reason to expect or pressure them to participate, as I would not be able to utilize the data generated by them in the study results. This process ensured that participants were not part of the study through any pressure or fear of reprisal.

Summary

Chapter 2 detailed the process and findings of the Reconnaissance Phase of the MMAR study. It presented the methods and procedures used for preliminary data-seeking concerning an authentic problem of practice, utilization and analysis of previously existing data, and detailed justification for the chosen intervention of action research. A literature review of action research as professional development outlined previous researchers' findings on the efficacy of that model. That review established support for

action research as a form of professional development that contains the characteristics of effective professional development established in Chapter 1.

Chapter 3 presents details of the next two phases of the MMAR design: planning and acting (Ivankova, 2015). It details how the intervention (i.e., teacher-conducted action research facilitated by an educational leader) is utilized as a strategy to enhance teachers' professional development.

CHAPTER 3

PLANNING AND ACTING PHASES

The greatest identified weakness in the professional development program for teachers working in the Corning-Painted Post school district was the lack of classroom change that occurred following district-delivered professional learning. While there are many professional development opportunities within the district, there is no official mechanism in place to determine if the professional development was effective, to measure any change created from participating in the professional development, or to determine if further opportunities were needed. A program of classroom-based action research, designed to allow teachers to report (a) types of problems investigated, (b) results of interventions, and (c) evaluations of effectiveness would provide important data about impact on educational practice and student learning. Properly implemented action research encompasses all characteristics of effective professional development and thus has the potential to sustain and strengthen the current positive cultural climate about professional learning in the district.

Chapter 3 begins with an overview of the planning phase of the study, which includes the study design, typology, and methodology. Details of the intervention are then presented.

Planning Phase

During the planning phase of the MMAR model (Ivankova, 2015), a researcher reflects critically on the inferences made through evaluating qualitative and quantitative data gathered during the previous phases and then develops an action plan based on interpretations made regarding that data. This phase of the MMAR method incorporates

purposeful gathering of both quantitative and qualitative data with the goal of finding a resolution to the identified problem of practice.

Reconnaissance Phase Interpretation

Research has established that teachers want professional learning that encompasses the characteristics of effective professional development (Darling-Hammond et al., 2017; Desimone & Garet, 2015; Slepkov, 2008). During the Reconnaissance Phase of this study, data established that teachers at Corning-Painted Post seek professional development that supports them in making positive changes in their teaching practices. Conducting action research within their classrooms was determined to be the most appropriate strategy for six reasons. First, it engages teachers in professional and personal learning that is active and supports autonomy and choice in their professional learning. Second, it requires collaborative interaction with peers. Third, it links to the goals of their school and the district. Fourth, it allows teachers to explore content-focused learning. Fifth, it encompasses feedback and reflection, which are essential to continuous professional growth. Sixth, conducting action research within classrooms occurs over a sustained duration.

Research Questions

The findings of the Reconnaissance Phase clarified the characteristics of professional development desired by teachers. The study examined whether the chosen intervention (i.e., classroom-based action research) encompasses those characteristics to an extent that it is a valuable form of professional learning for teachers. Determination of that outcome is determined through answering three questions:

1. Do teachers view action research as a professional learning model that incorporates the characteristics of effective professional development?
2. Do teachers feel that classroom-based action research is a process that leads to real and sustainable changes in their teaching practice?
3. Does classroom-based action research as professional development lead to more positive feelings about professional development?

Study Participants

The opportunity to participate in the study was extended to all teachers in the district, regardless of the grade level or the content area they taught. The upper limit of participants was 30, although participants who choose to collaborate with a partner working with a similar student population or pursuing a similar topic were counted as one unit to encourage more participation. Participants were encouraged to attend an information session outlining the study processes prior to enrolling in the study. All study participants completed the Informed Consent form prior to participation.

Detail of Intervention

Data collection on professional development perceptions and needs was conducted prior to any action research training via a pre-survey administered by me. Participants received an overview training in action, after which they were asked to engage in video-based training presented incrementally as they worked through the process. Each of the sessions for study participants focused on one phase of the action research cycle and was accompanied by voluntary exercises to develop their skills at each stage of conducting action research.

Additional data were collected throughout the study when participants completed each problem analysis that defined their problem of practice and in a weekly reflection journal wherein they recorded their research process. Focus groups were conducted that encouraged participants to discuss the progress of their projects, to collaborate and share ideas, and to discuss their thoughts on the process. Semi-structured interviews were conducted near the end of the project during which study participants reflected on their experiences and offered perceptions about conducting action research. A post-survey was administered following the survey. Artifacts, including a final project report and any artifacts shared will also be utilized for data-gathering.

Acting Phase

During the acting phase of the MMAR model (Ivankova, 2015), the intervention was implemented with study participants. Throughout the acting phase and at the conclusion of that phase, data were gathered and compared with pre-evaluation data to assess effectiveness of the intervention.

Study Participants

All members of the Corning Teachers' Association—teachers, school counselors, service providers (i.e., speech, occupational, and physical therapists, and school media library specialists)—were invited to participate in the study. Participation was solicited through a district-wide email message from me that was sent from the Office of the Superintendent (see Appendix E). To ensure that none of the teachers at the school where I am an administrator felt coerced to participate, another email message was sent informing them that any data I collected throughout the study would not be included in their performance evaluation and that they should not feel coerced into participating in

the project. Two informational fliers regarding action research and the requirements of the project (Appendix F and Appendix G) were included in both electronic mailings.

Although I originally planned to limit participation to 30, 35 ultimately enrolled because many were working in collaborative groups. Among the original 35 participants, 14 did not complete the study, most citing reasons related to the strain of teaching and working in hybrid environments required by the COVID-19 pandemic. Among the remaining 21 participants, 4 worked in elementary schools, 12 in middle schools, and 5 in high schools. The participant group included

- Four special education teachers, of which two worked in self-contained classrooms,
- Five teachers who taught in related arts programs (e.g., technology, art, music, health),
- One speech-language pathologist, and
- Three first-year teachers in the district of which one had just begun her teaching career when the study began.

The study participants' years of teaching experience varied considerably: (a) Six teachers had taught for 1-10 years, (b) eleven for 11-19 years, and (c) four for 20 or more years. Among the 21 teachers, 17 had acquired professional training at or above the *Bachelor's +45 level*, which in the State of New York indicates that they had completed more formal education or professional development than was required per their contract. Six participating teachers had achieved the *Bachelor's +90* ranking, which is the highest level tracked by the contract. Figure 3.1 displays the participants demographics.

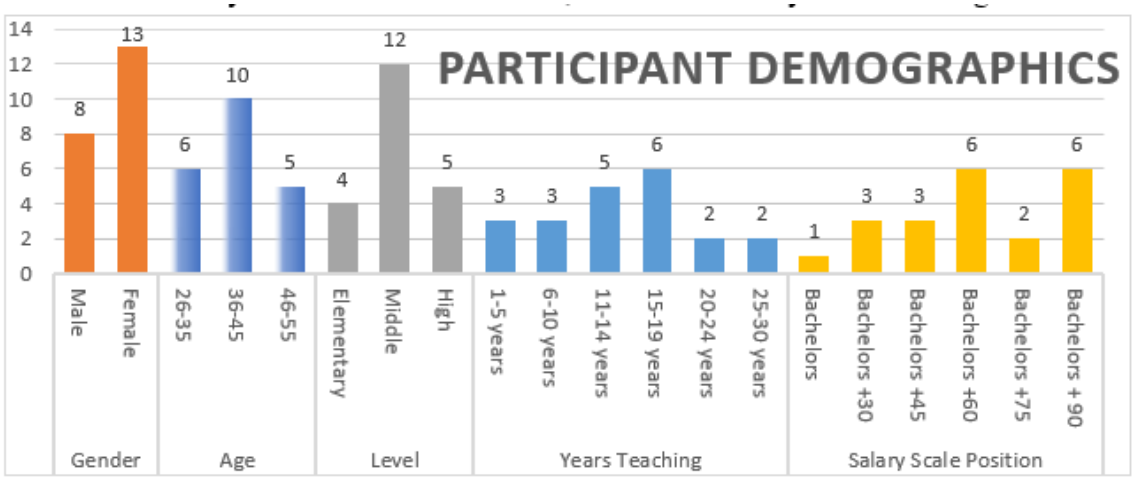


Figure 3.1 Demographic information regarding study participants.

Implementation Details

Through the intervention, I trained participants in utilizing action research as a means of professional development, with the intention of examining whether relevant, timely intervention in the classroom, on a topic of the teacher's choice, was successful in creating change in teacher behavior. A major part of the intervention, therefore, focused on teaching participants something new. Training occurred in the concept and principles of action research, but also in fundamental research practices such as problem of practice identification, research methods, and data gathering and analysis.

Additionally, the intervention involved a leadership component, investigating whether an educational leader could support teachers in creating change in their practice by assisting and facilitating what remained a largely teacher-led form of professional development. I continued to facilitate their investigations, provide feedback, and assist in their practices throughout the course of the intervention. I interacted with participants in individual meetings and interviews, through focus groups, and through written interactions in weekly journals and other project artifacts. The number of interactions with participants varied; however, throughout the course of the intervention, I interacted

on a personal level with each participants at least ten times, as well as interactions within focus groups.

The intervention began with an introduction to both my role as a support and facilitator and to action research itself. Following study participant recruitment, two introductory training sessions were offered to provide information about the project, the role that participants would assume, and professional development credit available from the district based on participation in the study. Informed consent documents were distributed. Once I received a signed informed consent, I added a participant to a Google Classroom I created with project resources (e.g., training videos on the different phases of action research, presentations to accompany the videos, exercises to develop the work during different phases, template for reflection journals). The first task completed by participants was the pre-survey (see Appendix H), which gathered their perceptions and expectations for professional development prior to the action research intervention.

Participants engaged in a training plan about action research that utilized a five-step process modified from the work of several action research methodologists (Sagor, 2011; Ivankova, 2015; Mertler, 2008). In the model I created, participating teachers progressed through a five-step action research process where they learned to

- Reflect: Consider their professional practice and identify a problem of practice they wish to address,
- Define: Narrow and refine their research topic and consider strategies for gathering preliminary data,

- Research and plan: Seek possible interventions to help address their problem of practice and plan the process of implementing it with their students,
- Implement: Use the selected intervention in their classroom and collect data during and/or following the intervention,
- Evaluate: Analyze the collected data, determine results or outcomes, and reflect on the process.

This model highlighted various strategies for identifying problems of practice, engaging in reflective practices, gathering and analyzing data, evaluating outcomes, and reporting results. These cyclical steps provided a method for me to simplify the explanations of the action-research processes for the participants and supported an even distribution of research tasks across the study period. Figure 3.2 is the graphic that I created and distributed to study participants to help them follow the action-research cycle correctly.

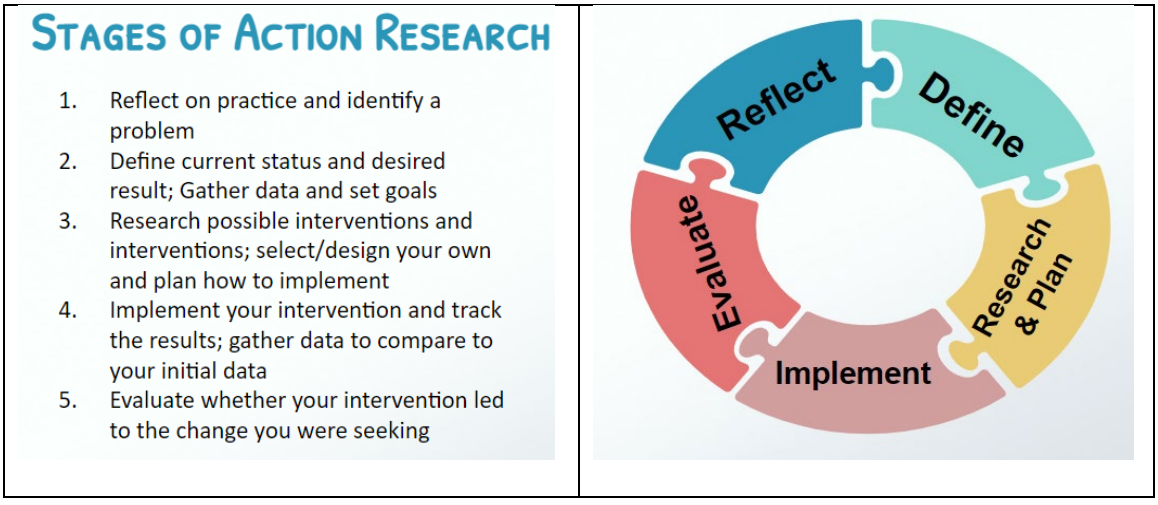


Figure 3.2 The Action Research Cycle format provided to study participants

Throughout the study, participants completed a weekly reflection in their research journal maintained in the Google Classroom that I created for the study. The electronic journal allowed me regular access to the study participants entries, and it quickly became

a venue for connection and discussion between the study participants and me. I also shared training videos each week, which was a change from my original plan, wherein I had intended to share them all at once. The study participants indicated that they preferred getting the information slowly and just when it was needed, rather than at one time, because learning the process was less overwhelming that way.

Three focus group meetings (see Appendix L) commenced midway through the intervention, and participants were required to attend two of the three. Group meetings were conducted virtually due to social-distancing restrictions, which several participants shared was actually helpful because they were able to participate from their classrooms and did not have to travel to other buildings. Due to the virtual setting of the focus-group meetings, I was able to take advantage of several online features. When asking questions that required more thought or processing time, I offered participants the opportunity to respond in the chat. Others then responded verbally to those written responses, which provided an additional tool to stimulate professional discussion.

Other project tasks were also completed via Google Classroom. Optional exercises were added as Assignments, which created a unique copy for each participant which they could utilize, and which I could access as well. The Problem of Practice Analysis was presented and completed as a Google Form, which dropped all of the responses into a single spread sheet, allowing me to more efficiently analyze and reference participants' research topics. A template was provided for the final written report as well, with format and headings in place so that participants could focus on writing, and not be sidetracked or intimidated by the process of designing and formatting the paper. In the report, participants detailed their problem of practice, reviewed the

literature that they utilized, discussed their data collection methods, detailed their intervention, and discussed the findings of their classroom-based action research projects.

Semi-structured interviews were conducted during the last two weeks of the project. Because the research groups had multiple collaborators, some selected one member to represent the group, whereas each member in other groups wanted to talk with me individually. Thus, although all 21 participants had the opportunity to participate in an interview, only 11 interviewed or conversed with me. Although some participants opted to meet face-to-face, most requested that their interviews be conducted virtually. While the conversations with the study participants were informed by questions in the interview protocol posted Appendix K, the interviews were more often directed by what participants wanted to discuss rather than what was proposed on the interview protocol. Some teachers were eager to share what they learned by completing their individual projects, while others wanted to discuss the action research process.

The post-survey (see Appendix M) was the last data-collection activity of the project to be completed. As with the pre-survey, data were gathered through the post-survey via Survey Monkey. The web address for both surveys were shared in the Project Google Classroom and via electronic mail. All participants completed the post-survey.

Throughout the course of the intervention, participants created a great volume of work of their own, including instruments other than those referred to. They investigated the literature regarding their problems of practice, created data gathering instruments that they implemented before and after their interventions, developed those interventions, analyzed their data, and summarized their findings in a paper at the end of their study. I supported them through the creation of all of these artifacts, and by studying their work,

providing feedback, and talking through changes and analyses with them, I was able to ascertain information regarding their process, areas of struggle and success, and to gauge their thoughts regarding the changes made as a result of their research.

Table 3.1

Acting Phase Data Collection Instruments and Timeline

Data Source	Data Collected	Sample	Collection Period
Participant Pre-Survey	Professional development perceptions, definitions, and expectations	Teacher Participants	January 2021
Problem of Practice Analysis	Problems of practice, classroom perceptions	Teacher Participants	February 2021
Focus Group Meetings	Feedback, reflection, areas of success and concern	Teacher Participants	March 2, 2021 March 10, 2021 March 23, 2021
Semi-Structured Interview	Discussion, questions and answers, perceptions of the process	Teacher Participants	March 22, 2021 through April 1, 2021
Reflection Journal	Individual reflection, successes and struggles, analysis of process	Teacher Participants	Completed weekly, January 28, 2021 through March 26, 2021
Written Evaluation	A final paper, summing up participants' research, data-gathering and analysis, and interventions	Teacher Participants	March 2021
Participant Post-Intervention Survey	Professional development perceptions, action research perceptions, reflections on action research	Teacher Participants	March 2021
Participant Project Artifacts	The research and intervention materials created by participants through the course of their study	Teacher Participants	January – March 2021

Identifications of Problems of Practice

Early in the study, participants identified their problems of practice and constructed purpose statements for their research. As participants outlined their problems

of practice, a wide range of themes emerged, some of which were highly personalized and some that coordinated with district goals and initiatives. Twelve of the 21 participants emerged from the first phase of action research with a content-specific problem and focus, 4 with problems that focused on the district initiative of Student Mental Health and Social Emotional Support, and 5 with projects that incorporated the district initiative on Student Engagement during Hybrid Learning. A selection of problems of practice can be found in Appendix N.

Reflection Journals

Reflection journals were an area that many participants were uncertain about completing early in the process, and some indicated that keeping up to date with reflective postings was time-consuming and even stressful. However, several indicated that it was a component of the project framework that helped keep them on track. The biggest concern was from people who do not consider themselves writers. Art teacher Giana admitted that, "As an art teacher, I express myself in pictures and images. I don't consider myself a writer, so having to use words intimidates me." Others, who do define themselves more as writers, enjoyed the opportunity to express their thoughts in that form. Resource Room teacher Alana, who incorporated a weekly thematic quote in her reflection journal, said, "I teach kids to write for a reason. I love it. It was fun to have a chance to write about myself and what I'm doing." In future studies, it would be interesting to explore different modes of maintaining a reflection journal in order to accommodate different learning styles and preferences among participants.

Focus Groups

Three focus groups were scheduled during the intervention, and participants were required to attend at least two. One participant attended all three. During the meetings, participants shared their ideas, and later their progress across time and their research results. Some teachers had worked together prior to participating in the project, while others knew each other but had never collaborated or had ever met. Some expressed early their concern that they would not be able to connect with the focus group or even be able to offer the group anything valuable. One special education teacher explained that there were fewer than five classrooms like hers in the entire district, and thus, she was unsure what she could add to the conversations. Kate, a first-grade teacher, worked with the youngest population of students of any participant and admitted that at the beginning of the project, she felt like she could not relate to other participants. The other group members were "all talking about [ways to enhance] student engagement. I teach first grade . . . and they love everything." But participating in the project changed her perception. At the end of the project, Kate said,

> I loved the focus group. I got to hear what everyone did, the successes. And I saw that what I'm doing in first grade, they're doing too. Roy is doing civil discourse. We do that. We call it nice talking. Dan and Alana are teaching writing about conflict. I do that too, but we call it finding the problem. It starts with me, but with this, I got to see where my kids go with what I teach them.

Other teachers echoed the positive experience they had with focus groups. "I loved collaborating with colleagues across the district and grade levels. This is an opportunity that doesn't occur very often," said Carolyn. "It is exciting to see what everyone is doing."

Semi-Structured Interviews

Participants had the opportunity to engage with me in an individual interview, and ultimately 12 of the 21 participants met with me. Most of the meetings were remote and guided by the questions in the interview protocol (see Appendix K). The teachers who participated in interviews were eager to share the results of their projects, and many went into great depth regarding their perceptions about action research as professional development. This process was invaluable in providing a deeper understanding of participants' perceptions revealed through their responses to open-ended questions in the pre- and post-surveys.

Written Evaluations

Participants received a template for drafting their final written analysis. Many teachers, including those who had expressed trepidation regarding writing a paper, shared that the process was beneficial. "I have never written a paper so easily in my life," reported Paul, a middle-school mathematics teacher. "And I think it needed to be written for professional development like this. You needed something to close it off." Carolyn, a fifth-grade teacher, confessed,

> I have been in the classroom over 20 years. I don't even [recall] when the last time was [that] I wrote a research paper! But I have a binder full of research, and it was good to have something to do with it. And now, I can take this and share it with my team, and tell them, "This is what I did. We can do it with all of our kids– it's all in here."

Participant Project Artifacts

Study participants generated a great deal of material themselves throughout the course of the intervention. The first major artifact created was the problem of practice identification, where they precisely identified the exact area they wanted to change their

teaching, and the precise change that they wanted to see from students. Even the process of narrowing down both of those topics to the degree of specificity needed for a research project was a new process for some participants. Next, participants completed research of their own, which they utilized to create their interventions. I provided participants with training in gathering research, providing links to databases and research sites that they could utilize, teaching online search strategies, and providing them with a basic literature matrix with which to keep track of their information. Additionally, I worked with individual participants to help them find sources specific to the topics they were investigating.

Probably the most challenging part of the project for participants was data gathering and analysis. Participants had to evaluate what they wanted to measure and then learn and select different data-gathering tools in order to determine whether their interventions were successful. Because of the length of the study, participants had to create measures that they could evaluate in their classroom in a matter of weeks, rather than relying on larger, external measures such as a state tests or even marking period grades. A wide range of different measures were used by participants, including:

- Student surveys in a variety of formats, including multiple choice questions, Likert scale questions, and written response questions.
- Measurement of student work before and after interventions
- Comparison of student work with other groups what did not receive the intervention
- Focus group and individual conversation with students
- Behavioral tracking before, during, and after interventions

- Survey of staff in related disciplines

A more detailed list of interventions in specific research projects can be found in Appendix O. Participants generated a great deal of information through this data-gathering, and it allowed them to measure the success of their interventions more precisely than many imagined that they could. High school teacher Roy commented that, "I sometimes wonder how effective a strategy is for students. Now I'm wondering why I haven't been checking it like this for years."

Once data was gathered, participants evaluated how to use it. Much of this process was detailed in reflection journals, individual conversations, and focus groups, where participants shaped a reflective, data-based practice that allowed them to select, implement, and evaluate interventions to create change in their classrooms.

Acting Phase Overview

Kurt Lewin, the originator of action research, referred to this part of the process as "taking the first action step" (Gordon, 2009, p. 70). However, most researchers who study and write about the action research process focus more on the planning and the evaluation parts of the process than on the *active* phase of action research. For example, in her book about the MMAR process, Ivankova (2015) has the least number of indicators in the index for the Action Phase than for any other phases in her model.

In his book, *The Action Research Guidebook,* Sagor (2011) calls the third stage "Implementing Action and Collecting Data" (p. 7). His seventh chapter in the book describes how to build a data collection *plan* and then in the eighth chapter he shows how to analyze data. Unfortunately, he does not include any advice or guidance to reader about what actually must happen during the data-collection process (i.e., *how* to collect

data). While Mertler (2009) names one of his action research steps, "Implement the Plan and Collect the Data," (p. 41) the chapter devoted to this step is titled simply "Collecting Data." The chapter does go into more detail on utilizing data-collection instruments than other books, but the chapter is still primarily a collection and description of tools designed to gather data, without detail of how to use those tools. This step of Mertler's action research process is defined as the data collected through action, rather than by the actions used to gather data.

For this project, I focused intentionally on *how* to collect data. Through the implementation of data-collection instruments (e.g., surveys, project tasks, reflection journals, interviews, focus groups, written papers), I was able to gather data from the participants regarding their problems of practice, their planning and data-collection processes, their evaluations of their own work, and their perceptions about action research. The *acting phase* is aptly named: A considerable amount of action by the researcher is completed in this stage. It is thus ironic that *how to collect data* is not described by authors of action-research books written specifically for teachers. In many ways, data collection is the apex of the process: Prior to this phase, work done is leading there; then following data collection, the work focuses on analysis and evaluation of the information that was gathered. I attempted to address this shortcoming by sharing the activities and examples of collecting data for my dissertation with the study participants who were conducting their own classroom-based action research.

Summary

Chapter 3 presented the Planning and Acting Phases of this MMAR project. The chapter detailed the process of recruiting and training participants and reported

information regarding the final composition of the study group. Also described were data-collection strategies and professional activities that were implemented to support study participants throughout the project as they learned about and actuated action research in their P12 classrooms. The materials created for the intervention and utilized in the MMAR study, along with participant experiences and reflections regarding their participation in those activities, were described. Also discussed were the protocols for group and individual interviews, the order of interventions, and the purpose and process of the Acting Phase of the MMAR model of research.

Chapter 4 presents the Evaluation Phase of the MMAR study. Research results and findings are discussed, participant experiences are shared, and study implications are presented.

CHAPTER 4

EVALUATION PHASE

The need for effective professional development among educators working in Corning-Painted Post School District in Corning, New York, was clearly revealed, and the call for effective and sustainable professional learning has been made by many researchers (Wei et al., 2009; Guskey (2017); Slepkov (2008); Yigit & Bagceci, 2017). Efforts to provide professional development are often hampered by the fact that professional learning provided to teachers frequently does not contain the characteristics needed for effectiveness or lead to demonstrable change in teacher practice (Cunningham et al., 2015; Darling-Hammond & Richardson, 2009; Guskey, 2002; Matherson & Windle, 2017; Slepkov (2008); Wei et al., 2009). In order for teacher professional development to be effective and lead to changes in teachers' practice, it must contain the characteristics of effectiveness that develop and support teacher learning (Darling-Hammond et al., 2017; Desimone & Garet, 2015; Pharis et al., 2019; Slepkov, 2008; Wei et al., 2009; Zehetmeier, et al., 2014).

In this action research study, I sought to demonstrate that classroom-based action research is a practice that, when utilized for developing teacher professionalism, can address the needs of teacher-learners and be a truly effective means of professional learning. Throughout the study design, I explored whether, by training to become teacher-researchers, educators could control their own learning in a way that created changes in their practice and led to increased achievement for their students. This MMAR study utilizes a concurrent design consisting of two strands (i.e., qualitative methods, quantitative methods), which are merged to generate conclusions informed by multiple

perspectives (Ivankova, 2015). Data collection for this study spanned from January 2021 through March 2021 and encompassed two phases of the MMAR process: Acting and Evaluation. With full support from district administrators, the intervention (i.e., teacher-conducted action research on authentic problems in P-12 classrooms) was implemented during the Acting Phase, which included collecting data from the participating teachers. During the Evaluation Phase, post-intervention reflections and a post-intervention survey were administered to gather additional data from the 21 study participants.

The 21 participants in the study represented a wide range of professional backgrounds, experiences in education, and educational settings, which were detailed in Chapter 3. Despite their differences, however, each teacher shared a common goal: to be a better teacher so that their students can learn more effectively and achieve greater success. This chapter details the results of these 21 educators' journeys in action research and how participating in action research affected their views and expectations of professional development, their classroom practices, and their students.

Findings Regarding Professional Development Beliefs and Expectations

While gathering data during the Acting Phase of the MMAR project, diverse questions were asked through different data-gathering activities. The goal was to gather participants' perceptions of and expectations for professional development prior to the implementation of the intervention (i.e., conducting action research in their work settings). Concurrent with the findings of the Diagnostic Phase, participants indicated that they had sought and participated in multiple professional development opportunities over the course of the previous year, with nearly half of the participants indicating they had

participated in over 30 hours of formal professional development outside of school hours during the 2019-2020 academic year.

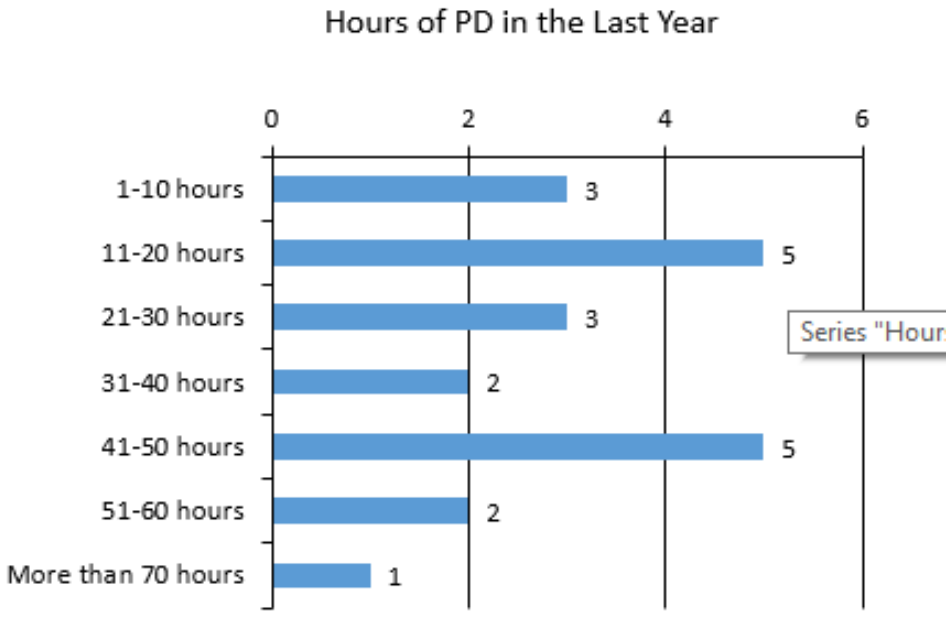


Figure 4.1. Professional development hours by study participants in the last year.

Those professional development experiences took many forms, spanning from college classes to conference participation. However, few participants reported that any of the experiences were highly impactful to them in their professional practice. Those that were contained at least some of characteristics of effectiveness. For example, webinars, online courses, and book studies are opportunities that participants chose because they focused on content-specific topics or areas that were coherent with district initiatives or building programs that interested the participants. Workshops offered by the district during annual August Day are often high interest for participants as the presenters are generally either teachers in the district or members of community partner agencies, thus addressing topics generally relevant to teachers' needs. However, some of the professional development opportunities yielded little impact on teachers' practice. Of 15

participants in webinars, 13 found little or no impact from the experience. Only six of nine participants in book studies, which is one of the most popular professional development activities, found the experience *moderately impactful*, while only one reported it to be *very impactful*. District-sponsored or supported professional development yielded lower results: 8 of 17 participants in Staff Development days found little or no impact of the activity on their professional practice, and none found it *very impactful*. BOCES workshops, regional professional development paid for by the district, were moderately impactful for six of the eight participants, but *highly impactful* for none of the teachers.

Table 4.1

Professional Development Experiences and Impacts, Pre-Survey Results

Type of Professional Development	No Impact	Slight Impact	Moderate Impact	High Impact	Total Participants
Degree Program	0	0	0	1	1
College Class	1	1	3	1	6
Webinar	8	5	1	1	15
Online Course	0	2	1	2	5
Book Study	0	1	6	2	9
August Days	1	4	10	4	19
In-District Staff Days	1	7	9	0	17
BOCES Workshop	1	1	6	0	8
IB Training	0	0	0	2	2
Conferences	0	0	4	1	5

When examining overall perceptions of professional development similar outcomes were reported. While many participants felt that participation is worthwhile (57%) and were curious about what they discover (71%), many left frustrated (52%) or bored (38%) by their professional learning experiences. Nearly as many (33%) felt

resigned to pointless experiences as were those teachers who were excited by the opportunity for professional learning (38%). Participants were able to choose multiple responses, which demonstrated the often-contradictory feelings teacher have toward their professional learning. The emotion least selected was *challenging* (29%), indicating that few feel that their professional learning will offer them the opportunity to test their skills.

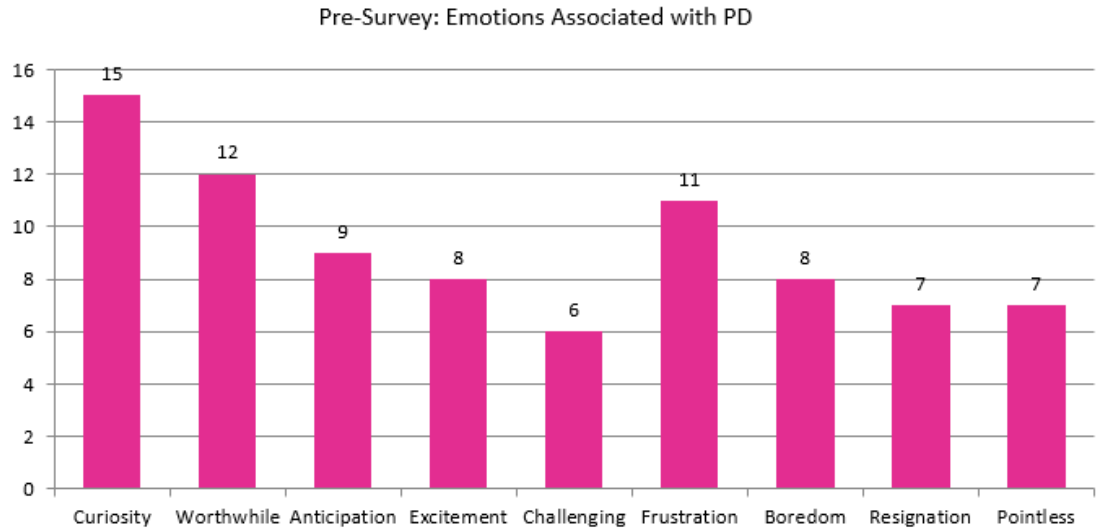


Figure 4.2. Emotions associated with professional development

However, despite these mixed emotions toward professional development, teachers continue to express hope and desire for professional learning opportunities. When Theresa, a science teacher who has been with the district for more than 20 years, discussed professional development, she said,

> I like it. I desire it, and I have certainly been seeking it out. And as I get older, and my own children are older, I finally feel like I have time for more, and I want it – I want to see what there is and what I can know.

Carolyn, a fifth-grade teacher who has taught for 23 years, echoed the same sentiment:

> I do tend to take opportunities. Probably as many as I can, because I always feel like I can learn something even if it is not of a great interest with me. I just sit in, and think 'How can I make this apply to me?'

Core area teachers like Theresa and Carolyn frequently expressed that sentiment: They were willing to "try anything" to improve their professional practice.

Greater disenchantment about professional development within the district was frequently expressed by teacher of related arts and special education. Wendy, a Speech and Language Pathologist, said

> I know people try to provide us with things that are really meaningful but sometimes the general professional development opportunities, I haven't really participated in. When I look at some of those selections, they don't apply to me and they don't really fit my scope.

Bethany, a high-school health educator, agreed with Wendy:

> We all crave learning as educators. I get excited to learn strategies and information that will translate directly to teaching. Professional development keeps me excited, but to be honest, I have seen very few professional development offerings that have really been worthwhile to me. Most of it just doesn't feel as if it is applicable to me.

Many teachers echoed Bethany's idea of value. "To be honest, to me, professional development is a day to go hang out at BOCES and eat lunch out," Quinn, a first-year teacher in the district and a three-year veteran in the profession admitted. "My biggest question is usually whether there will be someone there that I know that I can hang out with."

Other teachers expressed the same fatalism toward district-provided professional development. "The programs we have may work well for the general classroom teachers, but I usually search out and find my own sources within the art education realm to get my much-needed professional development," said Giana, a 25-year educator who has been in the district for 20 years.

Relevance emerged as a theme across the board. Kate, a first-grade teacher, descries "motivational" professional development: "Anytime we have a speaker to rev us

up for the year – to put it quite bluntly, I don't need that. I know what I have to do, and I am already revved up. Just help me!" A colleague, Art, who works as a middle-school technology teacher, agreed, commenting that: "Personal interests are what is lacking in district PD. I have to care about the work without cheesy anecdotes or touchy-feely sessions. What can I learn?" A second-year elementary music teacher, Molly, admits that PD is often unremarkable: "So much PD has nothing to do with my content area. I lose focus more easily and find myself unable to retain the information that was taught."

The teachers' shared experiences revealed a group of professionals eager and ready to learn, but whose expectations and needs were rarely met by the traditional professional learning opportunities provided to them. They agreed to participate in this study with the hope that action research would be a professional development model that provides them practice-oriented professional learning. Investigation of issue was not only a concern of the participants, but also the focus of the first set of research questions for this MMAR study.

Action Research as an Effective Professional Development Model

The first research question explored in this study was*, Do teachers see action research as a professional learning model that incorporates the characteristics of effective professional development?* Research detailed in Chapter 1 defines seven characteristics of effective professional development: (1) autonomy and choice in the content of the learning; (2) focus on content specific strategies; (3) context and coherence with building, district, department or personal goals and objectives; (4) incorporation of active learning opportunities; (5) collaboration with colleagues; (6) feedback and reflection on changes incorporated in the classroom based on the learning; and (7)

opportunity to learn and practice over a sustained duration. Throughout the study, both quantitative and qualitative data clearly indicated that the teachers' participation in classroom-based action research confirmed the assertion that action research incorporates these seven characteristics.

Quantitative Data on Characteristics of Effective Professional Development

A post-survey with quantitative elements and administered via SurveyMonkey was completed by all 21 participants at the close of the intervention. The quantitative questions gathered participant perceptions about (a) the characteristics of effective professional development in action-based action research and (b) the impact of those qualities on their professional learning. In addition, several questions in the post-survey were the same or similar to those posed in the pre-survey in order to support comparison of study participants' perceptions of professional development prior to and following their conducting classroom-based action research.

Participant responses indicated that they perceived the presence of the characteristics of effective professional development within the classroom-based action research model. All 21 study participants responded to all questions posed on the post-survey. All 21 indicated that Autonomy and Choice, Active Learning, and Feedback and Reflection were present in action research. Additionally, 98% of respondents indicated that Sustained Duration was a component of action research, 95% observed Context and Coherence, and 93% of reported the presence of Content-Specific Learning and Collaboration. The study participants also reported high levels of impact in the areas of effectiveness, with Autonomy and Choice and Active Learning reported as having the highest levels of impact on their professional development. All areas of Effectiveness,

however, had an average impact rating in the *High* area. More detailed information regarding the presence of the characteristics of effective professional development in classroom-based action research can be seen in Table 4.2.

Table 4.2

Presence and Impact of Characteristics of Effectiveness Characteristics in Classroom-Based Action Research[a]

	Presence of the Characteristic in Action Research		**Impact of Characteristic on Professional Learning**	
Professional Development Characteristics	**M**	**SD**	**M**	**SD**
Autonomy and Choice: *Action research provided the opportunity for me to select the topic of my learning*	2	0	3.86	.36
Active Learning: *Through action research, I was able to incorporate hands-on practice and implementation of learning*	2	0	3.9	.30
Context and Coherence: *Action research provided learning that relates to district, building, grade-level, or department programs or initiatives*	1.86	.36	3.29	1.06
Collaboration: *In conducting action research, I was able to work and collaborate with colleagues*	1.86	.36	3.04	1.16
Content-Specific Learning: *Engaging in action research enabled me to learn strategies regarding the specific subject or content area that I teach*	1.9	.30	3.38	.87
Feedback and Reflection: *I was able reflect on my learning, and was able to give and receive feedback from others regarding implementation*	2	0	3.33	.73
Sustained Duration: *My action research professional development experience allowed for practice and experimentation over an extended period of time*	1.95	.21	3.33	.65

Note: [a]n=21. In determining the presence of the characteristic, the response *Yes*, received a score of 2. *No*, received a score of 1. In rating the impact of the characteristic, the response *Extensive impact on my experience* received a 4. *Moderate impact on my experience* received a 3. *Slight impact on my experience* received a 2. *No impact on my experience* received a 1.

Through data collected after completion of the program, teachers reported a high level of presence and impact regarding the seven characteristics, including characteristics such as Feedback and Reflection and Sustained Duration that had been indicated as less desired or needed during data analyzed during the Reconnaissance Phase of this study. In the pre-survey, teachers reported how important they considered the presence of each characteristic to be in professional development. In the post-survey, they reported the same rating to action research and how impactful each characteristic was to their professional development. For nearly every category, with the exception of collaboration, teacher responses indicated an increase in the perceived importance of each characteristic after they completed their action research project.

Table 4.3

The Comparative Importance of Effectiveness Characteristics in PD[a]

Professional Development Characteristic	**Pre-Survey: Rated as Needed**	**Post-Survey: Rated as Impactful**	**Percentage Increase**
Active Learning	3.38 (.58)	3.86 (.36)	14.2%
Autonomy/Choice	3.57 (.60)	3.9 (.3)	9.2%
Collaboration	3.62 (.58)	3.04 (1.16)	-16.02%
Context/Coherence	2.86 (.79)	3.29 (1.05)	15.03%
Content-Specific Learning	3.24 (.83)	3.38 (.86)	1.2%
Feedback/Reflection	3.09 (.77)	3.33 (.73)	7.76%
Sustained Duration	3 (.63)	3.33 (.65)	11%

Note: [a]n=21. In determining the necessity of the characteristic, the response *High level of need* received a 4. *Moderate level of* need received a 3. *Low level of need* received a 2. *Not needed* received a 1. In determining the impact of the characteristic, the response *Extensive impact on my experience* received a 4. *Moderate impact on my experience* received a 3. *Slight impact on my experience* received a 2. *No impact on my experience* received a 1.

Responses by study participants during the semi-structured interviews and in the open-ended questions on the post-survey concerning Collaboration are explained below.

Qualitative Data on Characteristics of Effective Professional Development

The qualitative data generated through participants' responses on the post-survey brims with attestations regarding the importance of the characteristics of effective professional development. Teachers expressed a variety of different reasons for valuing the characteristics and expressed differing degrees of excitement around each characteristic. Nonetheless, participants' responses to the post-survey prompts as well as the entries in their reflective journals and remarks during focus groups and semi-structured interviews, repeatedly expressed value of each of the seven characteristics of high-quality professional development.

Autonomy and choice. The characteristic of effective professional development rated most impactful was autonomy and choice. Within the project data, participants mentioned autonomy and choice 67 times. Several participants asserted that the ability to choose their research topic was the major motivator for their becoming involved in the project in the first place. "I was so excited when I saw the flyer come through, and I thought, 'For the first time, I get to choose something and I'm even getting rewarded for it through credits.' I mean, you cannot beat that!" said Bethany. Others also expressed excitement about being in control of their own learning. "This was useful for me because I got to work on something that needed improvement in my own class," explained middle school science teacher Felicia.

To some participants, the opportunity to choose the topic for their action research made it a valuable form of professional development. High School science teacher Diana

reported that action research stood out among all other professional development experiences she had because "the choice of topic was my own! I was immediately more interested and invested in the topic because of that." Several participants used the word "freedom" when referring to autonomy and choice in the action research process, indicating a high level of excitement—and rarity—in being the drivers of their own professional learning.

Active Learning. The next most highly rated characteristic of the participants' experience was active learning, which evidenced the greatest increase between the pre- and post-survey responses (see Table 4.3). Fifty-one mentions of active learning appeared in the qualitative data. Special education teacher Alana noted, "Usually when there's a training, it's at the Board Building or something, and you're away from your students. But I got to work with my students and still do professional development!" Isabelle echoed this sentiment: "This was much better than any PD that I have done before as I actually got to implement the strategies with the students to see how they worked—and to make changes as needed."

Active learning also emerged as a factor that created more immediacy between learning and implementation. According to program participants, the opportunity for hands-on practice and revision increased the likelihood of long-term implementation of an intervention, while simultaneously created a greater sense of professional accountability. Quinn reflected on the impact of active learning.

> It forced me to interact with what I was doing, and to look at stuff in my own classroom and see where maybe it was not working, like does this actually work? What is the data behind it? It actually forced me to analyze some things that I am doing, and say, 'hey maybe this is where this is not working – how can I change it' while in my own classroom, versus sitting in some training being like, "Yeah, sure, I'll give that a try as soon as I get back to school (like, sure)."

Collaboration. Collaboration emerged as something of an outlier in terms of analysis of the characteristics of effective professional development because it was the only one that appeared to decrease in importance between the pre- and post-survey (Table 4.3). However, a mixed-methods analysis of this data provides a clearer picture. *Collaboration* as a quality of effective professional development was coded 77 times in the qualitative data–more than any quality other than Content-Specific Learning and Feedback and Reflection. Those who worked with a partner expressed many benefits of that collaboration. Alana, who collaborated with eighth-grade English teacher Dan, explained that "Splitting up the work was nice! But then we really got to get in together and collaborate and bounce ideas off each other and ask, 'Why did this happen?'" Others found ways to bring other educators into their projects as collaborators. For example, Theresa and Diana not only collaborated on their project but also reached out to collaborate with their department for ideas, asking the other 15 teachers in their science department survey questions about student engagement strategies. "Hearing other people in the group, talking about what works for them and what doesn't work for them, or how they measure engagement has been really helpful, actually," Theresa noted.

Collaboration was particularly beneficial to teachers who, as a practice, tend to feel more isolated professionally. Wendy, a Speech and Language Pathologist, described this project as

> an eye-opening experience. I work on an island in my field, and while I try to collaborate with various stakeholders, it is often in passing or strictly associated with behavior interventions. Even though behavior is almost always tied back to a communication deficit, we never have the time to connect. Action research showed the value of working to develop curriculum, implement it, and have meaningful reflection.

Isabelle, a special education teacher in charge of a self-contained special education classroom for students with emotional and behavioral disabilities, also shared how her action research process provided her an opportunity to reach beyond her self-contained classroom.

> I was looking for ideas, and you suggested I talk to Trina (a building social worker). That led me to the other social workers, and the SEL counselor…all people that I never have or would even have thought to talk to before.

Participants also cited the opportunity to work together with and collaborate with members of the focus group as a positive experience. Kate said that the focus groups were energizing because "there is such buy-in. People aren't griping about it – they're excited and you can see the value in it – it's important to us, you know?"

Other study participants were also swept up in that collaborative excitement: Throughout the transcripts of the focus groups, I noted 12 different instances of intra-group collaboration—of participants offering to meet with each other and share resources, recommending books, and sharing strategies that worked. One participant's chosen intervention was largely formed by a book recommended by another participant in the first focus group.

Because several participants chose to work individually, collaboration was not as much of a factor for them as for others. Working individually on their action research perhaps explains why collaboration was rated lower than might have been expected (i.e., the four participants who said that collaboration had no impact on their experience worked individually). Some of them noted however that they would prefer a partner to collaborate if they were to engage in action research again. For example, Carolyn regretted that she had not engaged her grade-level partner in her action research project.

She thought it would have been helpful just to "share ideas and work through the survey questions. Not even necessarily to do the same thing, but to see how things worked for her and to get her [colleague's] ideas on what to do." Kate, who also worked independently, reflected,

> When you are doing it [action research] by yourself it is hard because there is no one to bounce ideas off of. There is no one that you are really learning and growing with. I would have found it more rewarding and beneficial if I had a partner to discuss and research with while going through it.

Content specific learning. One of the most requested elements of professional development among participants throughout this study was content specific learning, from the Diagnosing Phase right to the Evaluating Phase. When participants were asked on the pre-survey about past professional development sessions that were impactful, they almost exclusively named experiences that were content-specific, such as (a) art workshops at the Smithsonian National Portrait Gallery, (b) visits to neighboring colleges to confer with professors in their content areas, (c) trips to Columbia University for workshops on teaching writing, (d) calculus workshops, and (e) one-on-one sessions with behavioral therapists who coached on management strategies and then continued to monitor and coach right in the classroom. Several teachers noted the importance of relevance to their content. According to one study participant, "I have been to professional development of speakers I've seen that helped impact my passion for teaching, but they didn't impact my classroom learning or student achievement as much as the ones that were relevant to my classroom."

Feedback regarding this action-research project revealed that the opportunity to focus on content-specific topics was an extremely important part of the process to participants. Fourteen of the 21 projects focused specifically on content-area topics (e.g.,

strategies to strengthen students' reading, sways to teach factoring skills, opportunities for students to develop skills identified in state learning standards). Isabelle observed that, "In any training, I need math and science and behavior examples, [but] nobody ever gives those because they're the hardest things to accomplish. . . . But [through this project] I got to pick what I wanted to focus on for my class." Dan agreed, explaining that action research allowed him to be "in control and responsible for solving a problem specific to my class. It was targeted to me and only me and that was neat." Felicia admitted,

> Sometimes I sit in PD classes thinking that this doesn't really apply to my class. But this [project] let me focus on a way to help my students write better responses to FOSS Science questions, which is something I've been wanting to do for a really long time.

Bethany reflected, "We preach that education isn't one size fits all, and this is the first time I've seen that idea transfer to our professional development. Action research allowed me to tailor my professional development to my students' specific needs."

Context and coherence. Although one of the qualities of effective professional development, Context and Coherence was the least referenced among participants (i.e., only 44 coded instances within qualitative data). Several teachers choose action-research projects that aligned with two distract initiatives: (a) Student Mental Health and Social Emotional Learning, and (b) Student Engagement in Hybrid Learning. For these teachers, their action research projects provided a way to incorporate the ideas explored within those initiatives into their own classrooms. For art teacher Giana, this project was a way to work Social Emotional Learning (SEL) instruction into her art classes. She explained, "I am creating SEL connections in adaptive art, which increased my focus of SEL and the whole child." The collaboratively conduct project by Theresa and Diana was born of a

struggle created for them by COVID-era restrictions. “We teach lab sciences,” Theresa explained. “We have been to trainings and workshops on engagement before, but we’ve never had to worry about students being engaged while they are up around tables doing experiments. It’s just never been a problem.” Louis echoed similar sentiments.

> Students have their cameras off, and I ask a question and they just don’t answer. I do not know if they are not there or whatever, but they are not answering. And I really think that if they were in the room and I went to their desk and asked a question, they would answer me just because I am there if nothing else. But since I do not have that now, I have had to think about what engagement is, and how to measure it and get there in a way I have not had to before.

Carolyn referenced an emerging practice of growth mindset that was being developed through the Student Mental Health initiative. “We teach a ton of growth mindset. And I see what Bethany and Madelyn are teaching at the high school, in health class, and what else could go along with it. It’s a huge undertaking.”

Feedback and reflection. Within the qualitative data, there were 107 coded excerpts related to Feedback and Reflection—the most among the characteristics of professional development (and the most of any code utilized in the analysis of all data collected). Three different themes emerged from data related to feedback and reflection: (a) personal reflection, (b) feedback from project partners and other colleagues, and (c) feedback from students.

Personal reflection was something that several participants noted that they enjoyed about the process. Diana asserted,

> The push to reflect on the process was extremely valuable. It has been a wonderful thing to do, to just sit and think, ‘Gosh, that didn't work like we thought it was going to work…Maybe it's the way we presented it?’ But to actually reflect on what you were doing, to take that time and to make that time to do that, has been wonderful.

Carolyn described her regular stream of reflection throughout the project.

> When I got the survey results, I could see right away where I needed to tweak some survey questions, where the kids answered, and their answer didn't make sense because I didn't ask it the right way. Or when I read something and thought, 'Oh, I could slip this in the beginning of this process, and it would give them another tool to use! I put a list in the front of my binder of things like that, so when I go to open it next year, that's the first thing I see, and I know what I need to change.

Felicia observed some change in student writing but not to the level she had hoped. Reflecting on that issue, she identified some barriers to student change and then developed a plan to convince her department colleagues to adopt the process next year. She also planned to make changes to various department processes in order to support the new writing plan and to provide additional incentive for students to engage with it.

Feedback from colleagues helped shape many other participants' projects. For example, Paul collaborated with his entire department on the project and reported that that collaboration was a huge part of the process for all of them.

> I would do something, and go in and tell them, 'Hey, you've got to check this out, it worked really good." Or they would say, 'I explained this like this, and they didn't get that piece, so be sure to focus on that.' Just being able to check in and share that and see how it went really helped us all.

Similarly, Bethany noted the value of feedback from her project partner:

> Madelyn and I worked together to build these things, but sometimes our classes responded completely differently. I don't know if it is delivery, or the makeup of the group, or what, but it was really interesting to hear from her how her kids went to a totally different place.

Theresa and Diana put a priority on incorporating student feedback into their project. Theresa reflected, "As a teacher I think I've gotten much better at just telling my kids or being very honest, like 'I am going to try something. It may bomb. Please tell me or I am not going to get better." They also provided a pre-survey before their

intervention to see what types of engagement strategies sounded interesting to their students. As they implemented a new strategy or used a new resource, they asked their students to provide feedback. Theresa shared, "My students are honest with me – really honest. But [now] I know what is worth my time and what is just making everyone miserable." Isabelle also made student feedback a major part of her project.

> We practiced ten interventions over the course of the project. And every time we did a new one, we talked about what was helpful about it, if they liked it, when they could use it. Once we had practiced five, every few days I let them pick which one they wanted, and that told me a lot about what types of methods worked for each of them.

Sustained duration. During the Reconnaissance Phase of the project, Sustained Duration was the characteristic that was least frequently referenced within the data as significant for professional development (i.e., only 31 coded mentions). When participants answered questions about positive professional development experiences they had had in the past, many experiences they named were delivered through sustained duration. Quinn described a new-teacher program in which he had been involved. The group met monthly to learn a new strategy, which they incorporated into their classrooms during the following month. At the next meeting, members reported their results to the group. He appreciated the ongoing professional development: "We could go back into our classrooms and apply the techniques over time. And when we come back in a month, [someone would ask], 'So what has been working? What has not been working?'"

Art, a technology teacher, described a past professional development he had experience that was sustained over time and thus provided the in-depth understanding of the process that he needed to see its value:

> I attended this training in NYC, and it was a two-week training. The first week I was on the fence, then during the second week I started to buy into the lessons

> and the ideas. I have used it in class, and I found them to be very engaging in everyday life.

Several participants noted that action research gave them time to develop their ideas, try them out, and refine them. Theresa explained that for professional development activities to work for her,

> They have to give me time to start it. And try it out. A lot of time. Otherwise, there may be things you find interesting, but three years later there you are at another training and you are like, 'This thing again! I meant to do that way back then!' This project has really helped me commit and follow through and keep trying things.

Several other project participants originally thought that the time frame to conduct action research would be too long—but discovered over time that it was actually too short. Paul said, "It seemed like plenty of time, but I definitely felt a crunch. We could definitely have kept this going longer." Kate warned, "I'm going to be emailing you every few weeks! I am not done with this!"

Many suggestions participants gave regarding future action research projects involved a longer time frame—three even suggested year-long projects to keep on track throughout an entire year, while others suggested that projects could synchronize with a marking period or semester. Several suggested it would be beneficial to start the action research project at the beginning of the year when teachers are establishing routines. The common thread throughout all the feedback data was that time was a factor that, though always in short supply, helped contribute to making action research a positive experience.

Case Study in Action Research as Professional Development: Wendy and Maggie

Wendy, a speech and language pathologist, and Maggie, a special education teacher who manages the 8:1:2 self-contained classroom for students with severe cognitive disabilities, collaborated together on a project to help develop communication

skills among the students they share, all of whom are technically classed as non-verbal. Both women shared a common frustration with professional development, expressing that, as two of very few people in the district who fill their roles, they virtually never receive professional development that is pertinent to them. While they both agree that professional development is most impactful when it directly impacts their students, neither feels they receive that very often. When assistance is provided, it is generally to support them in dealing with a specific student, most often because of a behavioral issue. Wendy and Maggie both felt that district leaders try to meet their professional needs, but rarely hit the mark. According to Wendy, "People try to provide us with things that are meaningful. But even when it's specific to us, there's little that's action based. It's mostly background." Maggie agreed with that assessment, expressing that those experiences left her feeling she wasted her time and failed to find new strategies to assist her students. She explained,

> Recently, one of the sixth-grade science teachers invited me in to look at the FOSS kit, which was great – I so appreciated her reaching out to me. But there is nothing in it that's relevant to my kids. They can't explain the things that FOSS is asking them to explain, and without someone to break it down with me, I can't use it.

Both responded immediately to the call for participation in the study and decided a little later to collaborate. Maggie asked Wendy to join her in a project to develop student communication skills through classroom strategies, which Wendy acknowledged was a need: "Since Maggie came into our world, we have back-burnered that need to create a core language program for her classroom. We've tried to collaborate, but we've always been forced into dealing with behavior intervention programs, not academic

issues." Thus, they agreed to use the action research project as an opportunity to collaborate on that long-needed program.

Maggie suggested a focus early in their collaboration–helping their students express preference. Wendy admitted that she was unsure of the choice for their project but was able to see Maggie's point about the need to develop those skills and thus agreed to the topic. In the course of conduction their action research, Maggie found a technology program that could be downloaded to the students' Augmentative and Alternative Communication (AAC) devices that tracked data on how often students used particular or targeted speech elements. They programmed it to track preferential language, particularly the "I do like" and "I do not like" phrases, and the program let them know every time a student utilized those words. Meanwhile, Wendy created a tech-free communication system that could be used if technology broke or was unavailable or if students were working with someone who did not know how to use the AAC devices. She focused on creating resources that matched the preferential language project, but now the format can be expanded to incorporate anything needed. "I am not crafty," Wendy admitted, "so I've been avoiding this for years. But we needed it to go with the project, so I finally had the push to get it done."

The two women shared great gains from the project. "I have been working with one student, Jayden, since the beginning of the year to split the phrase 'I want,'" Wendy said. Further,

> His communication system had them on one icon, but I wanted him to learn the pronoun so he could add it to other verbs. We have been working on it since September, and he wanted nothing to do with it. But since implementing it in the classroom, not just the speech sessions, and just once a day in the morning and through some activities in the afternoon and in science class, he's now owned it.

Maggie agreed and explained further,

> To put this in perspective, I have been working on getting students to identify a preference for two years. It is something I have worked on consistently since it is a basic skill. Now Ashley can do it independently. Jayden can do 'I like.' In science class today, he said 'I like sharks.' It is amazing. I was almost crying.

When asked what they felt created such great results for their students, both women pointed to a variety of factors. First, the action research process provided them the opportunity to identify and gather data on a target that they chose and that was specific to the skills they were trying to teach their students. Then, they were able to research specific interventions and select one that they wanted to utilize. They collaborated to create lessons and resources and worked together on the implementation, making sure to train the classroom aides as well, thereby enlisting them as collaborators on the project. They implemented the intervention, working to make it a part of the regular classroom routine as well as incorporating it into Wendy's speech services. The resource they chose for implementation also helped them track data, and they met regularly over the course of the project to review the data, to reflect on and discuss its implications, and to make any needed changes or adjustments. The classroom aides also provided feedback, and they suggested adjustments and helped incorporate the learning. As women saw growth in their students, they were able to use that to determine the next phase of their project.

The women have no intention of abandoning their project. They built communication skill practice and data tracking into the classroom routines, and they plan to incorporate a new language skill focus every month or two, once they have determined that students have developed the current skill enough. They are talking about expanding the program by sharing it with colleagues in other buildings. "If some of this happened in

the younger programs, we would have so much better a foundation to build ours," Wendy noted. "And it was Maggie–not even a Speech Therapist–to find this resource. I cannot stop thinking about how much more we could accomplish through this kind of process." They also have asked to participate in action research again. "We need to be able to do this – to look at things that are specific to our kids," Maggie said. Wendy warned me, "I already have four more projects lined up. So let me know what you need me to do to make action research a thing we do here."

This action research project incorporated all of the characteristics of professional development: choice, collaboration, active learning, feedback and reflection, and content-specific learning. It fit within the context of the special education program commitments to support students with disabilities, and the action research is occurring over an even more sustained duration than originally intended. Both women expressed high levels of satisfaction with the action research process as professional development. Maggie shared that she really enjoyed

> being able to conduct research that I thought was relevant to my classroom and collaborating with others to implement the ideas we found throughout our research. This gave me much more 'buy in' with professional development. I was extremely interested in this topic; I have data that demonstrates the effectiveness of the strategies we have implemented. I would like to participate in classroom-based action research again.

Wendy expressed similar professional satisfaction with the process.

> It is one of the most meaningful and successful professional development opportunities I have experienced. It has empowered me to ask for more time to collaborate and develop the interventions I feel my students need in order to be successful. I need opportunities to truly research, learn about, and implement evidence-based interventions."

Action Research as a Change-Making Form of Professional Development

The second research question addressed in this study asked, *Do teachers feel that classroom-based action research is a process that leads to real and sustainable changes in their teaching practice?* In Chapter 1 of this dissertation, it was established that the goal of teacher professional development is to create sustained change in teacher practice that leads to a corresponding positive change in student achievement (Darling-Hammond et al., 2017; Guskey, 2002; Wei et al., 2009; Yigit et al., 2017). It was also established that the goal of change is rarely explicitly stated in professional development; thus, making changes in their professional practices as a result of professional development is not internalized by teachers (Guskey, 2002). Paris and colleagues (2019) assert that it is difficult to plan for change in education because teachers are unlikely to adopt a practice unless they are sure that it will be effective. Therefore, professional change is more likely to occur and to be sustained only when teachers are able to see positive results of a change for themselves, with their own students. Quantitative and qualitative data gathered during this study suggest that (a) the process of action research helps teachers to internalize change as a purpose of professional development and that (b) they believe it is a process that can create sustained change in their teaching practices.

Quantitative Data on Action Research Creating Change

Strong indicators of participants' positive perceptions of action research emerged when comparing responses to questions on the pre- and post-surveys. In the pre-survey, participants were asked if they observed change in their own practice and in their students' achievement following past professional development experiences. The post-survey again asked if changes were observed in both teacher performance and student

achievement—but this time participants were asked to specifically identify changes that occurred in relation to the interventions implemented in the process of their classroom-based action research projects. Significant gains are seen in both participants' perceptions of changes in their own practice and in their perceptions of increases in their students' achievement following classroom-based action research professional development as opposed to other type of professional learning. Teachers were 24% more likely to say that they observed a change in their own practice following action research than following other types of professional development, and they were 21% more likely to observe a change in their students. While it was not possible within the scope of the answers to this survey to determine if these changes will be sustained, it is a promising early result. Table 4.4 details the data regarding these perceived and actual changes based on responses to the pre- and post-study questions.

Table 4.4

Comparative Perceptions of Action Research and Past Professional Development[a]

	Pre M (SD)	**Post M (SD)**	**Gain Score**	**F**
You observe a change in your behavior as a result of professional development	2.95 (.5)	3.90 (.3)	.24	56.3
You observe a change in your students' achievement as a result of professional development	2.76 (.62)	3.61 (.5)	.21	5.07

Note: [a]n=21. Both the question determining the frequency of change in personal behavior and that evaluating the change in student achievement following PD we rated on a scale on 1-4. *Often* received a 4. *Sometimes* received a 3. *Rarely* received a 2. *Never* received a 1.

In the pre- and post-surveys, teachers were also asked to select from a list of options the one that they felt best represented their view of the purpose of professional development. In the pre-survey, 19 of the 21 respondents (86%) selected either *To grow professionally* or *To learn something new*. While both of those goals are certainly

worthy, they are also vague and difficult to define. Only two participants said that their goal in professional development was "To change something about their teaching," and none of the respondents indicated that solving a problem in their teaching was a goal of their professional learning.

The results from the post-survey were quite different. In the post-survey, just 52% of respondents picked from the first two, less clearly measured, options, while 48% selected from the latter two options, both of which focused on change. The results could be clarified by more careful wording of the options that participants could choose. Nonetheless, the result shows a shift in the group's perception of professional development—from something that is done without the expectation of a discernable effect in the classroom to a professional practice that is undertaken to achieve a specific result.

Table 4.5

Comparative Analysis of the Perceived Purpose of Professional Development[a]

	Pre-Survey	**Post-Survey**	**Gain Score**
To grow professionally	16	10	-.29
To learn something new	3	1	-.10
To change something about your teaching	2	5	.14
To solve a problem in your teaching.	0	5	.23

Note: [a]n=21

Qualitative Data on Action Research Creating Change

The qualitative data provides more insight into observed changes as a result of action research, as well as participants' beliefs regarding whether or not changes that

occurred would be sustained over the long term. Qualitative data on change can be divided into three main areas: (a) perceptions regarding teachers' independent changes in practice, (b) perceptions regarding changes they have observed in their students as a result of their action research intervention, and (c) perceptions regarding the sustainability of those changes.

Changes in teacher behavior. In discussing changes to their practice resulting from action research, several teachers pointed to tangible resources and materials that they created and implemented with students that provided them support in changing the way they teach: Different graphic organizers, discussion models, manipulatives, reading strategies, and student screeners are examples of changes teachers created. Some teachers found value in more pedagogical changes in their own perceptions. For example, Louis spoke enthusiastically about the changes he observed in himself because of his implementation of action research. When he spoke of his project and results, he was frequently less excited about the project results themselves than by the resources he learned about as a researcher.

> The action research process certainly did help me create change in my practice. First, it called me into action, rather than simply complaining about my chosen problem (lack of online engagement). Next, it opened doors to an overwhelming amount of research on the issue. This has led me to learn about strategies that other professionals have found useful. Finally, it taught me about resources I previously did not realize existed and will continue to use.
> .

Another participant, Theresa, identified several characteristics of action research that she felt changed her practice, asserting that action research "allowed me time to explore, learn and then implement new teaching strategies. It allowed for follow thorough and collaboration." Kate explained how action research assisted her in changing her practice by focusing her identified problem: "I think action research helped me create change

because I was able to look at my data and focus in on one area of my teaching." Middle School Social Studies teacher Quinn described the impact action research had on his professional focus as well as his practice: "I feel like it opened my eyes to the reason behind an activity in class. Instead of doing bellringers [i.e., short opening activities to being class] just to do them, it made me see them as a way to teach content-area literacy skills. The changes were encouraging with just one unit of research."

Changes in student achievement. While participants discussed changes to their professional practices and the resources that they now use and share with students, they were particularly excited to disclose changes they observed in their students. For example, Isabelle observed increased willingness of her students to share with her. Because she works in a self-contained classroom for students with severe behavioral issues, she was very cautious in her expectations for the social-emotional skills and de-escalation strategies she was working to teach her students. As she implemented more strategies over time, she found that the reactions from her students were more positive than she had expected.

> I was really surprised by how willing they were to do the strategies. I felt that all the kids really gave honest feedback. Of the 10 students [in my class], 9 of them enjoyed and wanted to keep doing those calming activities at the beginning of the period. And my boys who I expected were going to hate it were the ones that overwhelmingly wanted to keep doing it.

Madelyn reported that action research was exciting because it allowed her to see "worthwhile results in the students and have the data to back up the fact that changes were made! There was a noticeable change in student beliefs by the end of the study."

Molly was able to practice different methods of supporting students with disabilities in her music classes and noted that students who experienced her action-

research intervention "had less interruptions and redirects. These students did not have as much negative peer attention drawn to them due to redirections. Before the changes, students oftentimes stated that they felt others were staring that them, and they were embarrassed."

Alana brought data with her when evaluating student change as a result of the changes that she and Dan made to the strategies they used to teach PEEL paragraphs. "For the first part of our research (teaching thesis statements), we saw a 57% increase in the success rates of our student participants, and a 26% increase in the success rates among the students who were participants in the second part of our process (identifying text-based evidence for the thesis)," she shared.

Perceptions of sustainability. While it is difficult to predict sustainability without the time to observe it, teachers shared perceptions as to why they believed the changes that result from their action research projects would be sustained. Alana noted success rates in student accomplishment, but also that "Our data showed a 40% increase in student participant confidence in the targeted skill. This is promising in sustaining change." Diana believes that she will sustain the changes she made because they were successful: "Action research allowed time to implement new strategies, bringing about an observable change in my practice. I will sustain that change because it worked! Students showed improvement in engagement." Madelyn, who said she had seen significant changes in student beliefs through the period of the study, believes that that change in students makes the change in practice worth sustaining: "I believe the students were taught something worthwhile that will stay with them and this is worth keeping in the curriculum in the future." Many teachers have started looking ahead to next year, and to

how they can continue and adjust the changes they made as a result of their action research processes. Dan detailed one of those plans in a focus group: "I was just chatting with Alana about some of the data we've gotten, and it highlighted some of the key areas we should focus on next year, in terms of building out the PEEL paragraph around a quote." Alana agreed, adding that she would also be utilizing the strategies and resources they built outside of the classes she and Cutsinger teach collaboratively, "Next year, I will have resource students who work with many different teachers in general education settings. We had some pretty good success with it. The data was good. So, let's go!" Others were not yet ready to be done with their initial projects: "I understand I had a pretty short time to see results, but I am seeing kids progress past phonics into comprehension, and I'm hoping to kind of touch base with you again, just to talk about what I'm seeing," Kate said, regarding student progress resulting from her intervention.

Case Study in Action Research as Professional Development: Carolyn

Carolyn, a 21-year veteran educator, teaches fifth graders. She is a strong advocate for students, and is known as an "early adopter," who is willing to try new things and adopt new programs. She is active in professional development and has frequently delivered professional development to other teachers through the district. When she spoke of professional learning, her language revolved around students – how meaningful PD has helped to better understand students, build better relationships with students, and figure out different ways to reach and connect with them.

It follows, then, that Carolyn's project focused on social and emotional support of students. She admitted that the project was inspired by one specific student, Max, whose struggles in school, she had come to realize, were rooted in a deep lack of belief in

himself and an utter lack of confidence in his abilities. Her goal was to start of process by which students could begin to build self-efficacy, which she defined as a belief that they could overcome any of the circumstances that made things difficult and still learn and take an active role in their own education.

She started by administering a pre-survey to all students, asking them to rate statements about their opinions of school, themselves, and education in general. Most students scored in the 50-60 range. Max, the student who inspired the project, scored a 39, underscoring his negative feelings regarding education and himself.

Carolyn's intervention with students consisted of two parts: a student slideshow and self-reflective assignment tracker. The slideshow was focused on goals, but also allowed students to explore and share different facets of themselves and their personalities, background, and interests. Carolyn worked with students in a regular weekly meeting to set and track long and short-term goals, which they regularly added and updated in their slideshows. She also provided slide topics, such as *An Accomplishment I Am Proud Of*, *Qualities of a Good Student*, *My Character Traits*, and *How I Spend My Free Time*. Carolyn explained that these topics "remind students that they are worth the effort in all areas. It is also to remind them that when they are not successful at something, it does not mean that they are not great people. They need to continue to work for the person on that slide." Carolyn also incorporated fun into the project, with a *Fun Facts About Me*, section, where students were free to share information about their favorite hobbies, games, activities, pets, or anything else that they wanted to share. She explained that she did not want the slide show to become onerous or a chore, so "As I assign a different topic each day or every other day, I am mixing up

fun/silly topics with others that are more serious and insightful (favorite color vs. a person I look up to and why)."

In connection with the slideshow, Carolyn also created emotional assignment trackers for students. The tracker served a two-fold purpose: to help students keep track of due or missing assignments, but also to teach them to monitor their emotions and to separate their effort and their accomplishment (i.e., grades or performance). The tracker had areas to record assignments and completion. Students were able to create two avatars of themselves – one depicting themselves as feeling "Great" and the other "Not so great." Those were pasted at the top of the tracker, where students could copy and insert them as needed into the last column, which just asked "How did you feel about your work?" That section, she explained to students, "is not about the actual material, but how you feel inside"

MAX


Great


Not so great

Date of Assignment	Assignment subject	Virtual (V) or in person (I)	Completed Y/N	How did you feel about your work?
3/4	Math HW, MobyMax (missing work)	I	yes	
3/5	2 point response	I	yes	

Figure 4.3. Assignment and emotion tracker for fifth grade students

Carolyn continued to work with and monitor the students on their slideshows and assignment trackers over the course of the project. She knew the long-term success of the

project would not be able to be assessed until well into the future but decided to monitor short-term success on the short-term goals that students set and reached over the course of the project. Additionally, she focused on ways that she could provide the support to help students build their own internal support. "I will be doing more specific praise for work and effort in written, verbal, and public ways," she wrote. "Building self-esteem is a huge part of building a child's self-efficacy." Carolyn frequently shared updates on student progress. "I have found that students are far more willing to share their ideas and feelings when they are writing them down in a non-formal way," she wrote half-way through the intervention. One day, the prompt of the day asked students to record something they were proud of onto the slide. During the pre-survey, Max had rated the question "I am proud of things I have done" the lowest possible score, but on his slide, several weeks into the intervention, he recorded several things in which he took pride. Carolyn excitedly shared this with the focus group, indicating that this was more progress than she had expected. Her relationship with students continued to deepen. She wrote,

> My Max is really working hard to do well, even though I think it is mostly for my benefit. I have been able to have some deeper conversations with him about how he feels about completing work and not completing work (not about the actual grade but about the satisfaction of completing it).

Other days were harder. One reflective journal entry simply reads, "I really just want Max to be successful. He has so much potential, and I want to him follow a different path than what he has seen his whole life. I hope there is something that allows that to happen."

As the project drew toward its end, Carolyn shared the progress of students, but also shared the impact that the project had had on her, as a teacher. "It's interesting how much you learn about kids when you give them a little bit of freedom," she observed.

She has also become an adherent of action research, in large part due to the results she saw from her students, and the relationships her project enabled her to build with them:

> Due to this action research project, I was able to research, and really apply what I was reading to my classroom and something I had wanted to explore for years. One positive is that I feel I know more about my students than I ever have in my 21 years of teaching. I also feel like I know their likes, dreams, how they feel about themselves, their self-seen insecurities, their proud moments and their low moments (in school and in life). Another positive is that I have given them a visual to see all of the great and amazing qualities about themselves.

Effect of Action Research on Teachers' Perceptions of Professional Development

The third and final study research questions asks, *Does classroom-based action research as professional development lead to more positive feelings toward professional development?* While the feedback of participants at all stages of the study indicates that they feel that the district consciously tries to provide good and varied professional development experiences, the overall consensus is that professional development, as a whole, tends to be underwhelming. Earlier sections of this chapter thoroughly explored teacher needs and perceptions regarding professional development and established that action research meets those needs in a more effective manner than many other types of professional development. This last question explores whether the action research experience was significant enough to create an overall change in perceptions of what professional development could offer, or in expectations for future professional development events. Analysis of quantitative and qualitative data from the study indicates that participating in classroom-based action research has given teachers a renewed sense of excitement toward what their professional learning could allow them to accomplish and has raised their standards for professional development in general.

Quantitative Data on Changed Perceptions

Quantitative data from the study shows a positive overall view of the effectiveness of action research and shows that this form of professional development ranks significantly higher than other forms of professional learning. Questions from the pre-survey regarding the worth of different types of professional development rank those experiences in the *Rarely-Sometimes* successful range. However, 100% of participants agreed that Action Research is a worthwhile process.

Table 4.6

Perceptions of Value in Types of Professional Development[a]

	Mean	**SD**
Overall satisfaction with CPP professional development program	2.33	4.8
Professional Development trainings are impactful	2.61	.74
Staff Development Days trainings are impactful	2.48	.51
In-District workshop-based professional development trainings are impactful	2.95	.74
Classroom-based action research professional development is impactful	4	0

Note: [a]n=21. The question regarding overall satisfaction with the CPP Professional development program was rated on a scale of 1-4. *Very satisfied* received a 4. *Moderately satisfied* received a 3. *Somewhat satisfied* received a 2. *Not satisfied at all* received a 1. Questions regarding the impact of various professional development activities were also rated on a scale of 1-4. *Very impactful* received a 4. *Moderate impact* received a 3. *Slight impact* received a 2. *No impact* received a 1.

Examining the qualitative data for patterns also reveals data that can be quantified for further revelations regarding changes to participants' expectations for professional development. Two of the questions asked in the post survey asked for participants to detail how their action research experience compared with prior professional learning, and how it affected their expectations of professional development. The responses for

each of those questions showed many responses that were coded as *Changed Expectations for Professional Development* and *Increased Professional Efficacy*. Without even examining the particulars of the responses, those numbers indicate that participants expressed a great deal of change in their expectations of professional development and of themselves as a result of the action research project.

Table 4.7

Coded Qualitative Responses Indicating Changes in Expectations for PD

	Changed Expectations for Professional Development	Increased Professional Efficacy
Describe any ways in which the action research process has changed your view of or expectations for professional development.	13	10
How does action research compare to other types of professional development you have undertaken?	7	7

Qualitative Data on Changed Perceptions

More particulars emerge regarding changed perceptions of professional development through an analysis of the quantitative data. Participants were quite direct when sharing their thoughts regarding how action research compared to past professional learning, and clearly shared that their expectations for professional development have become higher based on their action research experiences.

Some participants also expounded on what was different about action research that led to their change in expectations. Frequently, those changes revolved around the characteristics of effective professional development. Paul compared action research to one of the professional development activities analyzed in the Reconnaissance Phase of this study:

> Take the Equity workshop we did with those guys. They're fine. But I do not think anyone would ever change their thoughts, their opinions or behaviors based on those workshops. Maybe, but the effect is minimal. But this is like a great conference or something that is really impactful – on a totally different level compared to those workshops, and the biggest difference is, of course, choice. I get to pick what I want to do. I get to pick the topic.

Dan also felt choice was an important factor in action research, which caused it to compare favorably to other professional development that he had experienced: "This was much better because I was in control of the learning. I wasn't lectured about a new practice I wouldn't have time to implement like I've been in other districts. I found it to be very rewarding and valuable." Carolyn saw differences in herself as she practiced action research, notably a greater willingness to question her own practices:

> Action research far outweighs most of the professional development that I have undertaken. The action research I felt gave all of my learning purpose, I was driven to find results, open to changing what I was implementing, and the research that I was doing led to more questions and a deeper understanding of not only my topic but others that were related.

For Kate, the greatest value in action research was its specificity, and how it could be tailored to her specific needs:

> This is far and away so much better than most professional development that I have had. It was specifically tailored to me and the needs that I have. What makes professional development frustrating is that it is sometimes so broad that it really doesn't instigate the change that the people providing the professional development intend.

Other participants were even more clear regarding their future expectations for professional development. Isabelle said that her action research, "has opened my eyes to see that we can actually do PD that is beneficial and can make a difference in the classroom." Molly felt that this experience will cause her to expect more representation in future professional development, reflecting that

> This has made me realize that all professional development should really allow for everyone to feel like their own teaching matters. Often times, professional development centers around math and ELA and really misses the mark when it comes to classroom culture, student relationships, and actual problems that arise in the normal day to day routine of a classroom.

Math teacher William additionally indicated that his standards had been raised:

> I think this process has made me expect more from my professional development. I want to find ways that I can implement different strategies quickly in a way that is most beneficial to our students. Other professional development has given me strategies that I have thought would be good to implement eventually or that I needed more information.

Maggie warned that future professional development will have to be more impactful in order to capture her attention: "It is going to be very difficult to sit through topics that really don't relate to my students in my classroom. I was extremely interested in my chosen topic; I don't have as much buy-in on predetermined topics."

Dan too said that action research definitely changed the idea of what PD could do. Because if we are in charge of what I want to learn, I am not being spoon-fed this thing that I am probably not going to use. My opinion matters." William agreed, saying that

> I think this process has made me expect more from my professional development. I want to find ways that I can implement different strategies quickly in a way that is most beneficial to our students. It can put an individual teacher's needs as the focus of our professional development instead of trying to find professional development that will be meaningful for all.

Case Study in Changed Perceptions: Roy

Roy is a high school government teacher, and a 26-year veteran of the profession. He actively pursues professional development, has occasionally offered it himself, and is a member of the district Professional Development Steering Committee, which is the group in charge of planning and administering the district's professional development plan. His pre-study responses showed a preference toward professional development

delivered by in-district (and even in-building) colleagues whom he trusted, as opposed to outside sources that he felt tended to have an unrealistic view of real classrooms and to be inauthentic and frequently condescending. He voiced skepticism at "trendy," professional development, saying that he prefers professional learning that "would be useful for things that we need in the class now," rather than "things that we don't really use or are never going to use, or that's just the thing du jour, the topic of the day."

Roy teaches twelfth graders, and his class is based on current topics in government. It is heavily discussion based and geared toward helping students become informed citizens. However, he shared that in recent years, it had become increasingly difficult to have courteous, productive conversations in class. Some students are unwilling to share for fear of offending others or being attacked. Others were vehement in support of their own views and lashed out at others who disagreed with them. In a focus group, Roy revealed that he had had a student walk out of class because he played a (non-political) video from a major news network. The student didn't disagree with the video's content – he simply would not watch anything associated with that network. Roy admitted that, while he is careful not to share his personal opinion in class, even he sometimes avoids certain topics to avoid creating offense.

Roy's goal was to have a more open classroom environment, where students learned to share differing views in a respectful way and where they were able to address relevant but sensitive topics such as social justice and equity. He did a lot of research, exploring different resources until he had refined his topic. He decided first to measure students' current levels of comfort addressing issues in class. He started by having them take an online quiz gauging their political platform affiliation and asking for their

reaction to the results. He then asked a series of questions about their comfort level in class, if they respected the views of others, and how likely it was they thought their viewpoints could be changed. From that pre-survey, he discovered that only 27.7% felt *Very Comfortable* speaking out in class.

He then implemented his intervention – the "RECIPE for Respectful Discussion" – that he had developed through his research. Roy reviewed the concepts with students and discussed what each meant. He emphasized that it was a process that must be learned, and therefore practice was required, explaining that

> I acknowledged to students that the process may seem artificial at first, but that was my intention. I compared it to learning to drive a car. At first, we learn how to robotically check our mirrors before we turn on the ignition and then, over time, it simply becomes a natural practice.

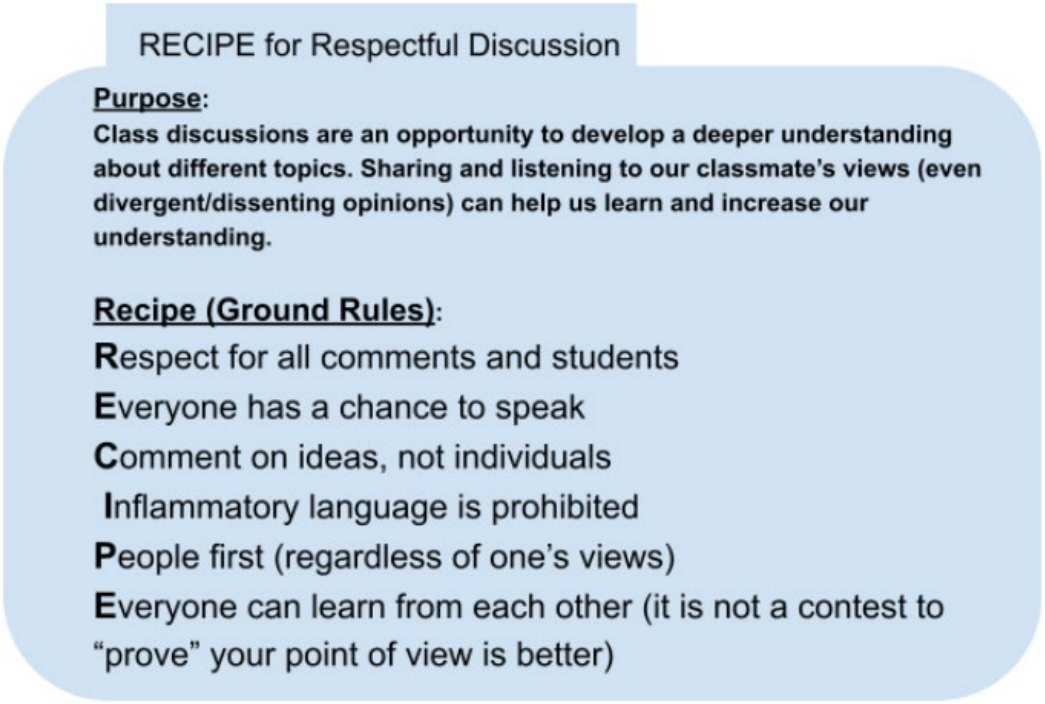


Figure 4.3. Roy's RECIPE for Respectful Discussion

The first discussion for which the class utilized the RECIPE model was a discussion of police reform following the death of George Floyd – certainly not an unambitious topic or one that does not generate strong opinions. Roy noted that "I explained to my classes that, like all recipes, this RECIPE can be improved and that I would be asking for student suggestions (in a post-survey) after we practice the process." He said that students responded in a very open-minded way to the RECIPE, and followed it to the letter during the discussion, even stopping to correct themselves if they started to stray from the RECIPE. Following the implementation of the RECIPE, Roy administered a post-survey, and this time 61.4% of students reported that they were *Very Comfortable* participating in a RECIPE-based classroom discussed. "I call that a win," Roy remarked mildly while sharing these results in a focus group discussion.

Roy strongly stated his support for the action research process, and his belief that it should be an on-going part of the district's professional development program and offered various suggestions as to how that could be done. "I think it [action research] is going to change everything," he said. "It's the perfect thing because it's tailored to what you need. You investigate what you want, but there's someone there to help and monitor you." He discussed the research he had done and how he had been able to pick what he wanted from it, rather than "somebody coming in and saying, 'This is how we are going to do it. It is tailor-made for you. It is the best PD I have had in 26 years. It set the bar high, and I now expect nothing less."

Findings from the Evaluating Phase

In the Evaluating Phase, study data was analyzed to evaluate the experiences of participants in the MMAR study. Through an analysis of the quantitative and qualitative

data, it was established that participants view action research as an effective professional development practice, placing particular value on the characteristics of autonomy and choice, content-specific learning, and feedback and reflection that are an integral part of the action research cycle. Data showed that participants believe that it leads to changes in their teaching practices that they will be able to sustain over time, inspired by both their own successes and the positive results that they have seen for their students throughout the process. Additionally, engaging in classroom-based action research has increased participants' expectations for their professional development experiences as a result of their time as action researchers. As Kemmis (2009) wrote, action research gave participants the option to be both theorists (the generators of the professional learning) and the practitioners (those implementing the professional learning), and through those dial roles, they were able to create rich, meaningful, and authentic learning experiences for themselves and their students.

Summary

In Chapter 4, the data from the survey was shared and evaluated. It was analyzed and applied to the three Research Questions guiding the study:

1. Do teachers view action research as a professional learning model that incorporates the characteristics of effective professional development?
2. Do teachers feel that classroom-based action research is a process that leads to real and sustainable changes in their teaching practice?
3. Does classroom-based action research as professional development lead to more positive feelings about professional development?

The process of analysis that occurred in this stage helped to build and inform answers to those questions. Quantitative data was used to help build inferences, while qualitative data help to create a clearer pick of that data and establish connections between the conclusions drawn by the quantitative data. Case studies of the experiences of specific participants helped to illustrate the data in each section, showing how the conclusions applied in the experiences and reflections of individual participants. These evaluations and analyses determined that the answers to the Research Questions were all yes, and that classroom-based action research is a professional development process that:

1. Incorporates the characteristics of effective professional learning
2. Is perceived by teacher participants as a practice that will lead to sustained change in their teaching practice
3. Leads to a positive change in teacher perception of professional development.

Chapter 5 will summarize the study. Following that summary, certain significant findings will be discussed, which will lead to an overview of the study's implications for practice. Areas of future research will be identified, and the study dissertation will be concluded.

CHAPTER 5

DISCUSSION AND OVERVIEW OF THE STUDY

This study explored not just the process of action research as teacher professional development but also the underlying values and expectations teachers have for their professional learning. Through their exploration of classroom-based action research, participants were able to learn the action research cycle and apply it to problems of practice within their own teaching. The study is a Concurrent Quantitative + Qualitative Mixed Methods Action Research Study (MMAR), where the data gathered through both the qualitative and quantitative strands were analyzed and synthesized to answers the research questions. The research questions were designed to explore efficacy of action research as effective professional development and use the action research process and experience to further explore teachers' needs and values surrounding professional development. The research questions guiding the study were:

1) Do teachers see action research as a professional learning model that incorporates the characteristics of effective professional development?
2) Do teachers feel that classroom-based action research is a process that leads to real and sustainable changes in their teaching practice?
3) Does classroom-based action research as professional development lead to more positive feelings toward professional development?

The study was conducted at the Corning-Painted Post School District in Corning, New York, and study participants were recruited from the members of the Corning Teachers' Association who are teachers, school counselors, library media specialists, social workers, and related service providers. Thirty-five participants originally joined

the study, but 14 withdrew early in the study for various reasons, leaving a group of 21 participants. A variety of methodology were utilized for the study, including pre- and post-intervention surveys, participant reflection journals, focus group interviews, semi-structured interviews, and participant project artifacts. I analyzed qualitative data (e.g., focus group and interview transcripts) by evaluating them for themes and using consistent data among the themes to inform the findings of the quantitative data and the study as a whole. Some were established prior to the analysis, such as the characteristics of effective professional development, while others emerged through the examination and analysis of the data.

Chapter 4 detailed the findings of the study, weaving together quantitative and qualitative data to determine that the work of the participants and the analysis of the data provided answers to the research questions. This analysis indicated that the answers to all three research questions was yes. Participants identified the presence and impact of the characteristics of effective professional development in action research and provided data that allowed analysis of the impact of each characteristic. Also, participants indicated that they did feel that action research was an effective form of professional development, one that would provide them with the ability to change their teaching practice and sustain those changes. Additionally, data indicated that their positive experiences with professional development has led to increased expectations among participants for future professional development. Participants want professional learning that is both relevant and effective and that can be implemented in their classrooms. They found this type of professional development through their experience with classroom-

based action research, which has in the words of one participant, “raised the bar” for future professional learning experiences.

Discussion of Findings

The purpose of this discussion is to present the study’s major findings, link those findings to existing research, and provide discussion that will enable the findings to emerge as a coherent vision. As the research questions dealt with the effectiveness of action research as both professional development itself and a model for professional development, this discussion revolves around those concepts. However, through data gathered through the Acting Phase, additional findings allowed other themes to emerge of interest to the study topics, which will also be explored in this discussion.

Action Research as Effective Professional Development

The literature review in Chapter 1 established seven characteristics for professional development, derived from the work of multiple researchers. Those characteristics include (1) context and coherence, (2) content specific strategies, (3) autonomy and choice in the learning process, (4) incorporation of active learning opportunities, (5) collaboration, (6) feedback and reflection, and (7) learning over a sustained duration (Boyle et al., 2004; Darling-Hammond et al., 2017; Desimone & Garet, 2015; Slepkov, 2008; Wei et al., 2009). The presence of these characteristics in the professional learning makes it much more likely that sustained change in teaching practice and that a corresponding positive change in student achievement will occur. Throughout the study data, participants referred often to these seven characteristics in their analyses and rating of the action research experience. They credited the ability to choose issues relevant to their professional needs and goals to examine what interesting

to them in process and kept them involved. The collaboration with study partners and other participants deepened the experience and inspired them with new ideas. They claimed that the feedback they received from others and the structured reflection helped them evaluate and adjust their action research process. They pointed to the ability to actively implement and practice interventions over a sustained time period as reasons for the success of their projects. All seven characteristics were identified as being present in the process by a vast majority of the participants: 100% of the 21 participants noted the presence of autonomy and choice, active learning, and feedback and reflection; 98% observed the project's sustained duration; and 93% remarked upon the influence of collaboration and of context and coherence. Those characteristics were also deemed highly influential by a large percentage of participants (see Table 4.3). In fact, the characteristics of effective professional development were the elements most frequently referenced by participants when evaluating their participation in the study.

Creating and Sustaining Change through Action Research

One of the concepts guiding this study is that professional development is intended to create change, and thus potential changes as well as participant perceptions of the changes was an area of focus in the study. Zambo (2007) observed that the action research process deliberately focuses on change: The core of the process is to identify a problem, investigate it, make a change, collect and analyze data about the change, and either keep the change, or scrap it in favor of another. Participants were excited to create and observe change. Many commented on the excitement involved in finding solutions, implementing them, and evaluating them. Among the 21 study participants, 98% asserted that they had changed their teaching practice as a result of their action research, and 90%

reported that they had observed changes in their students' behavior or achievement as well. This excitement came not just from the results themselves, but because those results emerged from teachers engaging in a process that was meaningful to them and implementing a solution they discovered (Zeichner, 2003).

Heightened Expectations for Professional Development

While it is universally agreed that professional development is important and that school districts and teachers spend a great deal of time, energy, and resources seeking and providing it, research indicates that the vast majority of professional development provided to teacher is ineffective (Cunningham et al., 2015; Darling-Hammond et al., 2017; Matherson & Windle, 2017; Yigit and Bagceci; 2017). Five qualities make professional learning ineffective: (1) one-shot, isolated workshop model; (2) sessions focus on just one topic or behavior in isolation; (3) sessions not related to teachers' actual content or curricula; (4) training activities with no follow-up or support; and (5) programs not sustained over time (Darling-Hammond & Richardson, 2009, Wei et al., 2009). On the pre-survey, study participants cited all five conditions as professional development experiences that they had personally experienced and had no desire to experience again. On the post-survey, study participants felt that they had experienced a very different type of professional learning (i.e., designing and conducting action research) and were eager to do so again. All 21 participants rated action research as a worthwhile experience, and all of them said that they would engage in it again as a professional learning experience. Additionally, the qualitative data includes multiple suggestions about how the district could implement action research, ideas for their next action research projects, and thoughts regarding different district initiatives that could benefit from action research

groups. Additionally, several participants warned that future professional-development presenters would have to "step it up" in order to match the experience participants had conducting action research.

Permission to Value Individual Professional Priorities

One topic that emerged repeatedly during focus group discussions and semi-structured interviews was one that was unexpected and a bit disquieting. From the very first focus group meeting, just a few weeks into the project, multiple participants shared that they pursued action research and were enjoying the experience because it gave them "permission" to focus on and work on the things that were important to them in their teaching and their classrooms. Bethany asserted that action research was a position experience because it gave "permission to focus on something that I'm passionate about, as well as permission to take the time to implement change." Wendy celebrated being "finally able to feel confident pursuing interventions that I knew were evidence based but didn't have the time or true 'permission' to allocate my time/resources to making the interventions successful." Carolyn revealed that action research "gave me the focus of an idea that had been on my mind for many years, and it gave me the permission to focus on it." She explained further that conducting action research in her own classroom allowed her to "explore her passion" without feeling guilty: "The process gave me a chance to feel 'obligated' to focus on an issue in my room because I was 'required' to complete the research and have the data and reports to complete." Slepkov (2008) observed that teachers' professional environment is not very flexible: The demands on their time and rigid structures make it difficult for teachers to explore making changes in their teaching. Lack of time and flexibility is quite different from lack of perceived "permission" to

focus on professional objectives that teachers personally deem valuable or important. While it was definitely positive that teachers felt that action research granted them this phantom "permission," it is still disturbing that teachers feel that they need outside accountability of a professional development program to allow them to "sneak in" the professional learning and changes that they value.

Professional Efficacy

While the search for permission speaks to a lack of professional efficacy among teachers, data from this study indicates that participating in classroom-based action research helped to increase their feelings of professional efficacy. When Wendy was reflecting why she found action research to be such a positive experience, she said,

> Maybe it is from being in a profession [where people are] not treated like professionals, where you feel kind of a little manhandled. Where everything is dictated for you. . . . [Conducting action research makes] you feel like you're being respected for what, you know, needs to happen, and you get to figure things out on your own, which is good.

Giana echoed a similar sentiment:

> I appreciated, more than anything else . . . . [how you asserted] you are a professional here, do what you need to do, and I trust you to get it done.' Whereas I think, a lot of times, there's not always a lot of trust there."

For some teachers, the experience also inspired them to want more out of professional development. Quinn, who early in the project said that his big question about which professional development activity to select was who he was going hang out with while attending it, noted in the post-survey that "I expect a lot more out of PD now. More activity, yes, but also more work on my part."

Participation in this action research project gave teachers a sense of pride: They felt respected and valued, and they ready to do more work as action researchers. For

most of the study participants, the basis for that changed perspective was simply the ability to choose what work they wanted to do and being supported in that work.

Implications for Practice

The findings from this study have several implications for school leaders, teachers, and anyone who involved with planning or experiencing teacher professional development. Research clearly indicates that traditional models of professional development, on which millions of hours and dollars are spent every year, are not only ineffective but often demoralizing for educators. When forced to participate in training that has no relevance to their professional practice or no opportunity for collaborative engagement, teachers feel disenfranchised, devalued, and unfulfilled. However, utilizing a model that contains the characteristics of effective professional development, such as classroom-based action research, not only creates positive changes in classrooms, but also leads to increased teacher motivation, efficacy, and pride.

The characteristics of effective professional development require reimagining professional development as it currently exists. Certainly, there are structural factors (e.g., state and federal requirements, district calendars, contractual obligations) that make such a wide-reaching change a difficult undertaking to say the least. However, if time and money are to be invested into effective professional development, it is a waste of those resources to utilize formats that do not contain the characteristics that make that professional development effective and that support and inspire teachers to make changes in their classroom. Efforts should be made to determine how current models of professional development can be transformed–within structural requirements–to ensure

that the experiences provided support professional growth and enhancement for teachers and for their students.

The systems currently in place are creating frustrations for teachers who do not feel that they are allowed to learn what they need to learn without "permission" to do so. Giana observed that

> A process like [conducting action research] takes a lot of creativity. And I think that that is going to be very hard for teachers who are always told what to do, what book to use, what method to teach to continue participating in traditional professional development.

The multiple comments from teachers in this study who are grateful for being given "permission" to address the problems of practice in their classrooms—using action research they design—underscores the perception that teachers' freedom to act independently has somehow been severely constrained. This is a grave disservice to both teachers and students and must be addressed.

Among all of the study results, the almost accidental findings on efficacy are among the most interesting. Action research is certainly more intensive and demanding than the average half-day workshop. Yet the study participants groan at the thought of having to participate in another workshop; rather, they are eager to sign up for another round of action research. This sentiment undercuts the idea of "10 Minute PD" where the goal is to expose teachers to quick bursts of information that can be digested in small bites that fit into a teacher's busy schedule. The results of this study indicate that the problem is not so much that teachers do not have time for breakfast: They will show up for a whole buffet, and cook it too, so long as they get to help plan what is on the menu.

Many study participants expressed that they frequently feel that teachers are professionals who feel they are not treated as professionals, but rather are guided and

directed more like the students they teach. Professional development programs are often designed to make information quickly accessible to busy teachers. However, this research indicates that "quick and easy" may not be what draws teachers in, so much as a clear understanding of the relevance of the learning to their teaching, and some agency in determining the content of the learning. Professional development programs that clearly articulate that relevance, and incorporate some level of choice, may help both district leaders and teachers achieve their goals.

Recommendations for Future Research

The findings of this study make it clear that there is a desire among educators for effective professional development that allows them to be the drivers of their own learning. Classroom-based action research is one model that can address this issue, although certainly, there are other strategies to consider. Research can help to determine other models—particularly those that are structured-yet-individualized, collaborative, and time-consuming processes yet also can be implemented into the often-rigid structures of school systems.

Further research into teachers' perceptions of self-efficacy can focus on the feelings of disenfranchisement among teachers reveled through this study. Certainly, it is not the case that large numbers of school leaders and educational research groups are creating professional development with the specific intent of demoralizing teachers. However, it seems that this is an unintended result of professional development (e.g., how it is delivered, what its focus is, how teachers perceive it). Additional research could reveal ways to change or improve the situation to ensure that all teachers are provided

opportunities to engage in meaningful professional development and helps them and fulfill their professional potential.

Conclusion

Professional development matters. Teachers who are supported in learning and growing as professionals are able to make significant impacts on their students' learning and to preserve their individual sense of professionalism, autonomy, and self-worth (Wei et al., 2009; Guskey, 2017; Yigit & Bagceci, 2017). Research indicates two things are known: (1) what effective professional development is and (2) what is typically offered is not effective. Educational leaders, at all levels, must ensure that the professional development delivered to teachers empowers and enables them to make sustained changes in their teaching practice that leads to corresponding positive changes in student achievement. Models such as classroom-based action research provide the tools, supports, and structures needed to achieve that goal. It is the responsibility of educational leaders to ensure that teachers receive the professional development they need to support their students in reaching their full potential and while teachers likewise grow and develop themselves as professionals and as educators.

APPENDIX A

Full List of Professional Development Workshops August 2019

Workshop Title	Total Number of Evaluators	How would you rate the applicability of workshop content to your teaching?	How would you rate the quality of the workshop?
Addressing Mental Health Concerns in the Classroom Part I	24	4.7	4.77
Addressing Mental Health Concerns in the Classroom Part 2	20	4.7	4.6
App Smash - Combine Classroom, Screencastify and EdPuzzle to Deliver Online Instruction	11	4.3	5
Assessing to Determine Independent and Instructional Reading Levels	8	4.3	5
Classroom Without Walls	5	3.2	3.75
CPR Instruction	12	4.5	4.8
Data Binders for Elementary and Middle School Resource Room	3	5	5
Drive Google Forward	3	4.7	4.7
Engaging & Empowering Students	3	4.7	5
Google Forms and Sheets	2	5	5
Google Sites	22	3.9	4.3
Guided Math	7	4.9	4.9
Inquiry and Play	2	5	5
iXL	5	4	3
Making the Most of MobyMax	3	4	2.7
National Portrait Gallery Learning to Look	5	4.5	4.6
Number Sense	9	4.6	4.5
Persons with Disabilities and the Law	4	4.25	4.25
Positive Behavioral Supports for Students with Disruptive Behavior/Conflict Management	7	4.7	4.5
Presentations of Learning	2	4	4
Read Aloud with Accountable Talk	12	5	4.9
Responsibility Centered Discipline	2	4.6	4.5

Responsibility Centered Discipline – Advanced Skills Training	13	5	5
Specially Designed Instruction	2	5	5
Talk to Me at The Barn Before School Starts	7	4.9	5
The Mindful Classroom	8	5	4.875
Typing Club	2	4	4.5
Using Mentor Texts to Teach Writing	15	4.8	4.6
Using the Google Apps in the Elementary Resource Room Setting	4	4.75	4.7
What is in the Google Waffle? The Essential Google Apps	4	5	4.3
Total Average		4.5	4.6

APPENDIX B

List of 2019 August Days Session Comments

Comments Regarding Strengths and Requests for August Days

Professional Development Characteristic	What were the strengths of August Days as they were held this year?	What would you like to see for August Days next year?
Active Learning	• The workshops were applicable, they were participation based, and the material was high quality. This was the best August Days I have experienced in my twelve years of teaching.	• more hands-on activities related to lessons within our subject matter • More out of the classroom stuff. Too many of the offerings are just me sitting in front of a computer. • offerings that are different than the norm...fun hands-on offerings.
Autonomy/ Choice	• I was pleased with the choice of offerings for my current needs. I like the variety of technology workshops • I signed up for workshops that directly have impact on my teaching and knowledge of students	• More of the same. The variety is nice and the opportunity to continue with common planning is really appreciated! I hope to continue to see that as an option. Thanks!
Collaboration	• Workshops presented by colleagues are always useful and relevant. We have an outstanding group of educators and their experience and ideas are invaluable. • Having CPP staff lead workshops. There is so much expertise that we do not usually get to benefit from	• More Special ed teaming/ collaboration workshops • More "off-campus", kinesthetic, group learning activities
Context/ Coherence	• The Mental Health Workshop was helpful. I have attended a lot of anti-bullying classes. This information may help me understand the situation from a different viewpoint. • Addressed real concerns	• Updated info on writer's workshop, math workshop and reader's workshop as they are being used in CPP elementary classrooms. • Technology courses are helpful, particularly as we adopt more of "The Google" • Technology, social issues, reading comprehension

Content-Specific Learning	• Pertinent to my area • Subject-specific workshops. • Writing trainings were beneficial • I like having choices of classes that I feel I need.	• More math, more writer's and reader's workshop ideas. • More offerings related to special education • more choices related to specific curriculum
Feedback/ Reflection	• Simple-an opportunity to review course objectives to make the learning experience valuable for our students.	• I wish we had more time to talk about and practice these topics so we could put something together to use with kids • Three hours was not enough time for this!
Sustained Duration	*None*	*None*

APPENDIX C

List of January 2020 Staff Day Equity Workshop Comments

Comments Indicating Professional Development Needs Satisfaction, Equity Collaborative Training, January 27, 2020

Professional Development Characteristic	What were some of the strengths of this session?	How could this session have been more effective?
Active Learning	• It was very helpful, and it was easy to stay engaged with having us move around and complete different tasks. • The use of the game Taboo was a great way to get the mind thinking and reacting from a different perspective...fantastic!	None
Autonomy and Choice	None	• I wish we had been able to choose one of these sessions and explore it in more depth. • There are other topics that I was hoping we would get to explore during this time, but it was taken up by required trainings.
Collaboration	• I liked their small group activities. It was refreshing to meet and talk with my colleagues that I have never met before. • Like the getting up and working with people	None
Context and Coherence	• Please continue to offer PD to help identify areas in need of improvement in our district (racial disparity and solutions). • I liked this topic. Wish there were some colleagues that were there to hear it.	• I enjoyed the experience but would have liked it to be a little more specific to what is happening in the district. • Maybe something more specific to poverty topic and how we can help our families work through this.

Content-Specific Learning	• Good to be reminded of different cultural/situational interpretations	• What are we supposed to do about this at the elementary level? • I like the interactive games and information. However, I would have liked real life application in to how we address equity in the classroom. • Felt I did not learn much new or ways to implement ideas.
Sustained Duration	None	• I would like to be able to dig deeper into this topic. I think the time allotted was not enough. I think it would be valuable to do a follow up training with them. • Interesting but WHAT NEXT? • Wish it had been more in depth with how schools can significantly chip away at this age-old dilemma.
Feedback/ Reflection	None	None

APPENDIX D

List of January 2020 Staff Day Trauma Informed Workshop Comments

Comments Indicating Professional Development Needs Satisfaction, Trauma Informed Practices Training, January 27, 2020

Professional Development Characteristic	What were some of the strengths of this session?	How could this session have been more effective?
Active Learning	None	None
Autonomy and Choice		• I was not excited by spending another professional development day hearing the same things we have heard before when they are many other trainings, I have asked for that I have not received • Is there a way to arrange for this message to be delivered just to teachers who have not heard it?
Collaboration	None	None
Context/ Coherence	• Went along with a book study I am doing, and class on Emotional Poverty put on by BOCES last summer. Interactive, with good ideas. • It was a good reminder to keep the whole child in mind when planning to deal with unwanted behaviors and that perspective engenders compassion	• I did not feel that it was relevant to what I do
Content-Specific Learning	• Appreciated the resources with handouts and slides. • Very useful and gave ideas we can implement in our classrooms and in the high school very easily. • That was an interesting and mindful presentation. A great reminder to stay professional, and once again,	Great presenter, but again, what practices can I use, specifically in my classroom, to tackle the issue • I still do not understand how elementary teachers are supposed to instruct their class in the grade level curriculum to the rest of the class while the trauma student is acting out

	equitable to all students- to always treat people with respect and patience. • Fantastic presentation. Gave information and strategies to implement and made us realize we already are implementing a lot of strategies.	multiple times a day. What are we supposed to do? Please help us. We understand about trauma and even empathize with it. How are we to educate the rest of the kids? • I feel that we need to again move towards specific strategies that can be implemented within the classroom and within a building. I understand the research, I understand the purpose, but I need guidance with the change.
Sustained Duration	None	• Yes, please offer more PD on the topic. • We need more experiences like this considering the social and emotional needs of our kids. • Why is this just a 1.5-hour workshop? Why are these important things discussed briefly once in a while? Where do we go from here?
Feedback and Reflection	• This was relevant and important and had me reflecting on how I react when students react. • I loved his energy and his message. he made me think about my students and how I can reach them and their needs.	None

APPENDIX E

Letters to Potential Participants, January 2021

First Email, for Full District Faculty

Good morning –

My name is Lori Pruyne, and I have had the privilege or working with many of you in different roles throughout the district. I have been a teacher, an advisor, have worked with instructional technology, and am currently an Assistant Principal at Corning-Painted Post Middle School. I have been at CPP for twenty-three years and am continually inspired by how everyone here always wants to know, do, and be better for our kids and for each other.

I am currently pursuing a doctorate in Educational Leadership at the University of Kentucky. For my doctoral research, I have chosen the topics that are nearest my heart – teaching and teachers. As a teacher, I often experienced a disconnect between the professional development I received and what was actually happening in my classroom. As a designer of professional development for the district, I have struggled with how to close that gap in learning settings that were so removed from actual classrooms. I believe in teachers, in their dedication to their students, and understand the difficulty in not only fitting in professional learning that is outside an already packed school day, but in then trying to adjust someone else's idea of practice into the reality of the actual classroom.

The desire to provide authentic, meaningful, professional learning for teachers has been a driving force in my current academic path. I am currently investigating Classroom-Based Action Research as Professional Development. Classroom-Based Action Research is a process wherein educators identify a problem they have or a process

they would like to improve in their classrooms. They then work through a process of defining the problem, researching potential solutions, designing and implementing a solution, and evaluating its success**. It is entirely driven, shaped, and guided by the teacher's own classroom, students, programs, and needs.** When this process is applied as professional development, it puts teachers in charge of their own learning, and allows them to apply that learning to the unique scenarios they find in their own classrooms.

This seems like a difficult time to take on the burden of "one more thing." However, professional learning has not stopped in recent months - if anything, it has accelerated wildly (sometimes uncomfortably) in response to their very different new requirements placed on teaching and learning. Every educator in this district is facing new problems and working to develop new solutions. I believe that the structure of the action research process will help provide a framework and support for all of the new learning and creation teachers are already doing, while helping to investigate new professional development practices that could continue to benefit us in the future.

The attached documents share a little more about action research, and the parameters of this professional development opportunity. In recognition of the work that participants would put in, Michelle Caulfield, Kerry Elsasser and Linda Perry have agreed that participants in the professional development study, who implement a classroom-based action research process here at C-PP, will receive thirty professional development hours for their work. There will be two brief informational meetings on January 26 and January 27, from 3:30-4:15, for those who would like more information (attend just one at Google Meet Code: PD Study). If you look through the attached materials and decide that you would like to be part of the study, email me and let me

know! We are limited to 30 participants at this time, and will be on a first-come, first-served basis (participants are welcome to work with a partner). Registration for the program will close on January 28, 2021.

I am so excited at the opportunity to work with all of you. Thank you for all you do,

Lori Pruyne

Second Email, for MS Staff and Corning Teachers' Association Leadership

Hello, CPPMS Teachers:

This email is a follow-up to the email sent out earlier today regarding the research study/professional development opportunity that I am conducting.

I have always appreciated everything that CPPMS has done to support our kids, each other, and me as Assistant Principal. However, I want to be sure that none of you feel that you have to participate in this study, or that you will face any penalties or retribution for not participating.

To help ensure that none of you feel obligated to participate, I will not be including data from any teachers who choose to participate who are evaluated by me. In other words, if I perform your APPR observation, I will not include your information in the study. You can still participate in the activity to earn professional development credit, but I will not utilize your information.

Hopefully, this will ensure that none of you feel you "have to" be part of this activity. I value the work that all of you do, and feel that all of your reflections, observations, and work benefits our students, our school, and would benefit the larger

body of professional knowledge that this study will contribute to. However, I would never want to make any of you feel that participation in this would affect your standing in the school, the district, or with me.

If any of you have any questions regarding this study, please don't hesitate to reach out to me.

Thank you,

Lori

APPENDIX F

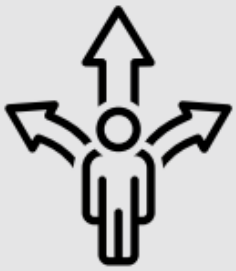
Action Research Study Summary Flier

ACTION RESEARCH PROFESSIONAL DEVELOPMENT STUDY OPPORTUNITY

Be in Charge of Your Own Professional Learning

1 SIGN UP TO PARTICIPATE

Any CTA member is eligible to participate in the study. It will occur over an 8-10 week period. At the end of the study, those who participate will receive 30 professional development credit hours. Participants can "pair up" with another CTA member in their grade level or content area and work on a project together. The study can accommodate up to 30 parcipants.



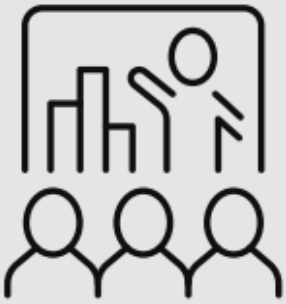
2 CONTROL YOUR LEARNING

Throughout the course of the study, participants will identify a problem of practice in their classroom - something that they want to do better, to improve, or just to figure out! They will refine that problem, research solutions, devise and implement their new strategies, and evaluate the results.

3 LEARN ABOUT ACTION RESEARCH

You will be trained on conducting classroom-based action research, and will be provided support and resources through the process. You will participate in group discussions, as well as one-on-one meetings to help your progress through the action research process, and share your conclusions regarding action research otself.

4 ACTIVITIES



Throughout the course of the study, participants commit to:

- Attending an initial one-hour training session
- Completing an electronic pre-survey
- Identifying a problem to investigate and researching solutions
- Completing a weekly progress journal
- Designing and implementing a new process
- Participate in two 30-60 minute group meetings
- Participate in one 15-30 minute individual meeting
- Complete a post-survey

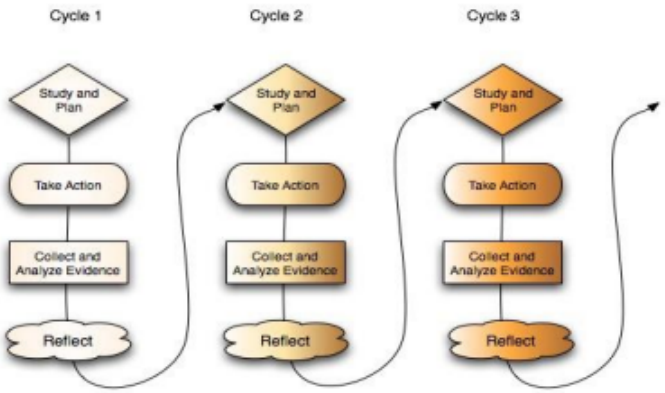
Email Lori Pruyne at lpruyne@cppmail.com to register to participate or with any questions

APPENDIX G

Action Research Study Introduction Flier

ACTION RESEARCH

PROFESSIONAL DEVELOPMENT THAT IS PRACTICAL, FOCUSED, AND CONDUCTED BY TEACHERS FOR THEIR OWN STUDENTS



Progressive Problem Solving with Action Research

Action research is a reflective process of noticing what's happening in the classroom, gathering information, and acting on that information.

WHY ACTION RESEARCH?

Action research is a "systematic inquiry conducted by those with a vested interest in the teaching and learning process for the purpose of gather information about how their particular schools operate, how they teach, and how their students learn" (Mills, 2011).

As such, action research is:

- Conducted by teachers in their own classrooms, to help improve teaching and learning for their students
- Designed to improved education
- Focused on implementing specific changes based on student needs
- Collaborative, with teachers working together to improve their schools and curriculum
- A way for teachers to reflect on their own practice and identify areas to grow
- Practical and relevant

PROCESS

1. IDENTIFY AN AREA OF FOCUS

Where do your kids struggle? What is hard for you to teach every year? Where do your kids continue to progress slowly, regardless of what strategies you try

2.COLLECT DATA

Look at your classroom, your instruction, your kids and their work. What's happening in your room?

3. ANALYZE & INTERPRET

What story is the information you find telling you? What are the strengths of your instruction? Where does what's happening not match your vision

4. DEVELOP A PLAN OF ACTION

You've figured out ***what*** you want to work on. Now, you research, reflect, talk with colleagues and your coach, and determine ***how*** you are going to try to improve this one specific piece of teaching and learning in your classroom.

APPENDIX H

Participant Pre-Survey

PART I: Background information

1. Your gender:
    a. ___ Male
    b. ___ Female

2. The grade range in which you teach:
    a. ___ Elementary
    b. ___Middle
    c. ___ High
    d. ___ Mixed

3. Your place on the salary scale:
    a. ___ Bachelors
    b. ___Bachelors + 30 hours
    c. ___ Masters
    d. ___ Bachelors + 45 hours
    e. ___ Bachelors + 60 hours
    f. ___ Bachelors + 75 hours
    g. ___ Bachelors + 90 hours

4. Number of years you have worked as a teacher:
    a. ___ 1-5 years
    b. ___ 6-10 years
    c. ___ 11-14 years
    d. ___ 15-19 years
    e. ___ 20-24 years
    f. ___ 25-30 years
    g. ___ More than 30 years

5. Number of years you have worked as educator in Corning-Painted Post:
    a. ___ 1-5 years
    b. ___ 6-10 years
    c. ___ 11-14 years
    d. ___ 15-19 years
    e. ___ 20-24 years
    f. ___ 25-30 years
    g. ___ More than 30 years

Part II Professional Development Experience and Needs

7. What emotions or thoughts do you associate with professional development? Check all that apply:
   a. ___ Excitement
   b. ___ Curiosity
   c. ___ Frustration
   d. ___ Boredom
   e. ___ Anticipation
   f. ___ Resignation
   g. ___ Anticipation
   h. ___ Resignation
   i. ___ Difficult
   j. ___ Challenging
   k. ___ Pointless
   l. ___ Worthwhile

8. How many hours of professional development—from any source--have you completed during the last year?
   a. ___ 1-10 hours
   b. ___ 11-20 hours
   c. ___ 21-30 hours
   d. ___ 31-40 hours
   e. ___ 41-50 hours
   f. ___ 51-60 hours
   g. ___ 61-70 hours
   h. ___ More than 70 hours

9. How much of your professional development occurred within the district?
   a. ___ Less than half
   b. ___ About half
   c. ___ More than half

10. Do you feel that the district provides:
    a. ___ Too few opportunities for professional development
    b. ___ Adequate professional development opportunities
    c. ___ Too many professional development sessions
    d. ___ Too many professional development requirements

Questions 11-22 concern your participation in any of the professional development activities offered during 2019-2020 school year and the impact that those activities had on your development as a teacher.

For each question below, please mark either yes or no in Part (A). If you answer "Yes" in part (A), then please mark one choice in part (B) to indicate the impact the activities had on you.

	(A) Participation		(B) Impact			
	Yes	No	No Impact	Slight Impact	Moderate Impact	Very Impactful
11. College courses or workshops as part of a degree program	☐	☐	☐	☐	☐	☐
12. College courses or workshops not part of a degree program	☐	☐	☐	☐	☐	☐
13. Online webinars	☐	☐	☐	☐	☐	☐
14. Online courses	☐	☐	☐	☐	☐	☐
15. Book studies	☐	☐	☐	☐	☐	☐
16. August Days workshop	☐	☐	☐	☐	☐	☐
17. In-district training	☐	☐	☐	☐	☐	☐
18. BOCES workshop	☐	☐	☐	☐	☐	☐
19. IB training	☐	☐	☐	☐	☐	☐
20. Conference	☐	☐	☐	☐	☐	☐
21. Un-conference	☐	☐	☐	☐	☐	☐
22. National Board or NYS Master teacher certification	☐	☐	☐	☐	☐	☐

23. What do you believe is the primary purpose of professional development?
    a. ___ To learn something new
    b. ___ To solve a problem in your teaching
    c. ___ To change your teaching
    d. ___ To grow professionally

24. How satisfied are you with the professional development you have received from the district in the last year?
    a. ___ Not satisfied at all
    b. ___ Somewhat satisfied
    c. ___ Mostly satisfied
    d. ___ Very satisfied

Think for a moment about your own professional development needs. For the items listed below, indicate the extent to which value the stated purpose.

Purpose	Not needed	Low level of need	Moderate level of need	High level of need
25. Professional development opportunities where you can select the topic of the learning	□	□	□	□
26. Professional development opportunities that incorporate hands-on practice and implementation	□	□	□	□
27. Professional development activities that relate to district, building, grade-level, or department programs or initiatives	□	□	□	□
28. Professional development opportunities during which you work and collaborate with colleagues	□	□	□	□
29. Professional development opportunities that involve learning strategies regarding a specific subject or content area	□	□	□	□
30. Professional development opportunities wherein you can reflect on learning, and give/receive feedback from others regarding implementation	□	□	□	□
31. Professional development opportunities that occur over a sustained duration of time (not a single session)	□	□	□	□

Consider the professional development sessions you attended last year. Then indicate the extent to which those trainings affected your professional beliefs or practices:

	Never	Rarely	Sometimes	Often
32. How frequently do you change your teaching practice in the classroom based on a professional development training?	☐	☐	☐	☐
33. How often do you see changes in your students' learning based on strategies you learned in professional development trainings?	☐	☐	☐	☐
34. How often do you feel that professional development trainings were worthwhile?	☐	☐	☐	☐
35. How often do you feel that Staff Development Day Trainings are effective?	☐	☐	☐	☐
36. How often do you feel that in-district professional development workshops (such as August Days or technology trainings) are effective?	☐	☐	☐	☐
37. How often do you feel that teacher-led trainings (such as book studies) are effective?	☐	☐	☐	☐

Part III – Professional Reflection

38. Considering all the professional development you have received in your career as an educator, what are the three most significant or memorable experiences?
39. Consider why the experiences you indicated in Question 38 are significant. What made them significant?
40. To what extent did those significant experiences impact your students' academic achievement?
41. What makes a professional development experience insignificant or not useful to you?
42. Reflect upon one of the most successful professional development activities or sessions offered by Corning-Painted Post. What was that activity and what made it successful?
43. Identify one of the least successful or impactful professional development activities offered by Corning-Painted Post. What was that activity and what made it unsuccessful?

Recall your overall impression of the professional development program at Corning-Painted Post.

44. What are the strengths of that program?
45. In what ways could that program be improved?

APPENDIX I

Problem of Practice Analysis

Developing a Topic for Action Research

Learning is a process of asking and answering questions. The questions that teachers ask about their practice come from two places: (a) **the complex structure of their classrooms** and (b) **felt difficulties and real-world dilemmas.**

Complex Classrooms

The complex structure of teachers' classrooms requires them to continually balance a variety of factors as they work to meet the needs of all students. Teachers seek to find relationships and make sense of the interactions between five different areas:

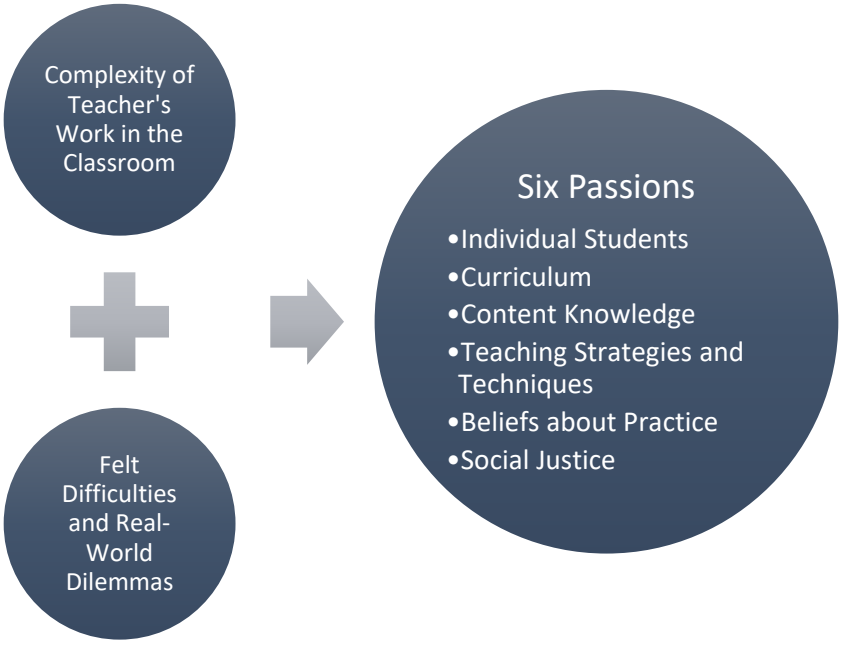
- The context of the classroom and learners
- The content of the instruction
- The children in the classroom
- The teacher's own beliefs
- The acts of teaching

Felt difficulties and Real-World Dilemmas

Felt difficulties emerge from teachers' experiences in dealing with the complexities of their classrooms. As teachers balance the five factors of complex classrooms, they become aware of other factors that further complicate the acts of teaching and learning:

- Social issues
- Students' identity and needs
- Teachers' personal and professional identities
- Beliefs and teaching, learning, and school

As teachers balance the complexity of their classrooms and consider the difficulties and dilemmas that emerge through their experiences, they typically feel six distinct passions regarding their teaching experiences:



Investigating Your Passions

1. Which of the Six Passions resonates most with you?
   - ☐ Helping an individual student
   - ☐ Improving or enriching curriculum
   - ☐ Developing content knowledge
   - ☐ Experimenting or improving instructional strategies and techniques
   - ☐ Exploring the relationship between teacher beliefs and classroom practices
   - ☐ Advocating social justice

2. Why are you passionate about the areas you identified?

3. Which of the program focus areas are you most interested in?
   - ☐ Integrating technology into instruction
   - ☐ Formative assessment strategies
   - ☐ Creating equity in the classroom
   - ☐ Enhancing student engagement

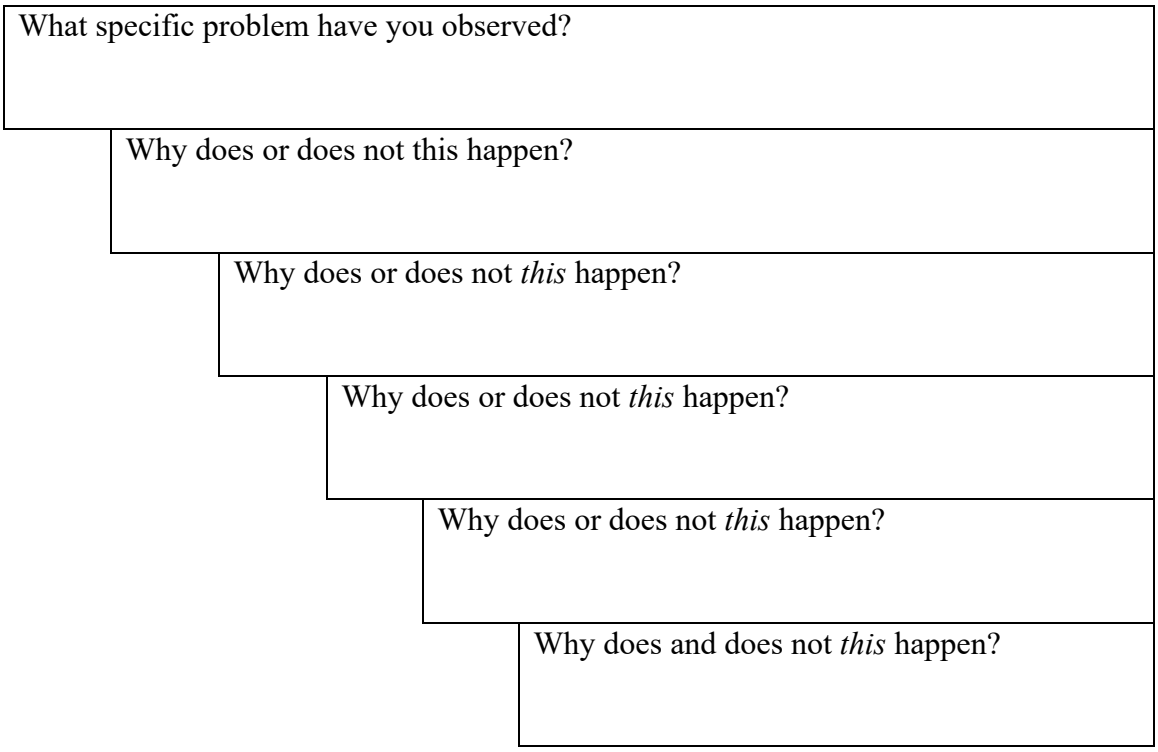
4. What connections do you see between your passions and the program focus areas?

5. Brainstorm ideas of problems in your classroom that you would like to solve in the chart below, and see how it corresponds to your passions and the program focus areas:

Problem	Passion	Program Focus Area

Create a "5 Why" Process Chart for Your Problem

Ask questions regarding the problem you have observed in your classroom. Brainstorm and work to identify the surrounding issues that contribute to the problem. Stop when you believe you have uncovered the root cause of the problem.



1. The problem I would like to solve is:

2. The purpose of this study is to:

3. My fundamental question is:

4. In order to answer this question, I will need to find out:

APPENDIX J

Reflective Journal

Each week, you will complete a reflective journal entry in the format that we have agreed upon. In that journal entry, you could:

- State progress through the action research cycle
- Discuss your current place in the action research cycle (Planning, Acting, Developing, Reflecting)
- Detail data that was observed or collected through your work
- Reflect on any obstacles or stumbling blocks that occurred this week
- Record any questions or areas that you would like to investigate moving forward
- Include any other information that you would like to share

APPENDIX K

Semi-Structured Interview Protocol

Time:

Date:

Place:

Interviewee:

1. What is your overall philosophy toward professional development?

For the following questions reflect about the early stages of designing your action research project:

2. How did you identify your problem of practice?
3. What steps have you taken so far in the action research process?
4. What is working for you in your action research project to date?
5. What difficulties have you encountered so far?
6. How did you resolve those difficulties?

For the following questions, reflect on the action research process so far.

7. Are you collaborating with your peers in conducting your action research?
8. To what extent has collaboration affected your experience?
9. Are you experiencing any challenges while conducting your action research? If yes, how have you addressed those challenges? Or what assistance do you need?
10. What else do you want to share regarding your action research experience?

APPENDIX L

Focus Group Discussion Questions

1. Describe your progress on your action research project to date.
2. What successes have occurred while conducting this action research project?
3. What stumbling blocks have you encountered while conducting this action research project?
4. Now that everyone has shared the progress of their action research project, what similarities do you note?
5. To what extent is conducting this action research project a form of professional development for you?

APPENDIX M

Participant Post-Intervention Survey, December 2020

Part I: Action Research Overview and Analysis

1. What is your satisfaction level with your action research professional development experience:
    a. ___ Not satisfied at all
    b. ___ Somewhat satisfied
    c. ___ Mostly satisfied
    d. ___ Very satisfied

2. What emotions do you associate with your action research experience? Check all that apply:
    a. ___ Excitement
    b. ___ Curiosity
    c. ___ Frustration
    d. ___ Boredom
    e. ___ Anticipation
    f. ___ Resignation
    g. ___ Anticipation
    h. ___ Resignation
    i. ___ Difficult
    j. ___ Challenging
    k. ___ Pointless
    l. ___ Worthwhile

3. What do you believe is the primary purpose of professional development?
    a. ___ To learn something new
    b. ___ To solve a problem in your teaching
    c. ___ To change your teaching
    d. ___ To grow professionally

Consider the follow statements regarding your action research experience. Determine if you feel that the statements correspond with your experience. Then, rate the degree to which the characteristics described in the statement impacted your professional learning.

For each question below, please mark either yes or no in part (A) to indicate whether you agree with the statement. If you answer "Yes" in part (A), then please mark one choice in part (B) to indicate the impact the activities had on your learning experience

	(A) Agreement		(B) Impact			
	Yes	No	No impact on my experience	Slight impact on my experience	Moderate impact on my experience	Extensive impact on my experience
4. Action research provided the opportunity for me to select the topic of my learning	☐	☐	☐	☐	☐	☐
5. Through action research, I was able to incorporate hands-on practice and implementation of learning	☐	☐	☐	☐	☐	☐
6. Action research provided learning that relates to district, building, grade-level, or department programs or initiatives	☐	☐	☐	☐	☐	☐
7. In conducting action research, I was able to work and collaborate with colleagues	☐	☐	☐	☐	☐	☐
8. Engaging in action research enabled me to learn strategies regarding the specific subject or content area that I teach	☐	☐	☐	☐	☐	☐
9. I was able reflect on my learning, and was able to give and receive feedback from others regarding implementation	☐	☐	☐	☐	☐	☐
10. My action research professional development experience allowed for practice and experimentation over an extended period of time	☐	☐	☐	☐	☐	☐

Read the following statements regarding your action research experience and indicate the degree to which you agree with the statements.

	Disagree	Mostly Disagree	Somewhat Agree	Agree
11. Due to my action research experience, I changed at least one practice in my teaching	☐	☐	☐	☐
12. I believe that that change will be permanent	☐	☐	☐	☐
13. Action research is a worthwhile professional development practice	☐	☐	☐	☐
14. Action research is too difficult a process for teacher professional development	☐	☐	☐	☐
15. How often do you feel that in-district professional development workshops (such as August Days or technology trainings) are effective?	☐	☐	☐	☐
16. How often do you feel that teacher-led trainings (such as book studies) are effective?	☐	☐	☐	☐
17. I feel that action research is a practice that the district should adopt for individuals/teams	☐	☐	☐	☐
18. Action research is a practice that teachers should be able to pursue as professional development on a voluntary basis	☐	☐	☐	☐
19. Action research is not an appropriate practice for Corning-Painted Post	☐	☐	☐	☐
	☐	☐	☐	☐

Part II – Reflections on Action Research

20. Do you feel the action research process helped you create change in your practice? What changed/what prevented changes from occurring?

21. How much did your action research change your practice regarding your problem? Do you feel you will sustain that change? Why or why not?

22. How does action research compare to other types of professional development you have undertaken?

23. What are some of the positives you gained from the action research process:

24. What negatives or difficulties are involved in the action research process?

25. What are some areas or issues in Corning-Painted Post that you feel would benefit from an action research approach?

26. Would you engage in classroom-based action research again? Why or why not?

27. Describe any ways in which the action research process has changed your view of or expectations for professional development in any way.

APPENDIX N

Participants' Problem Identification and Purpose Statements

Describe the problem of practice that you will be investigating in your action research	Write a purpose statement for your investigation:
I have been avoiding controversial political topics in Government classes to avoid offending both sides of the political aisle. I would like to develop a culture in which students with divergent views can respectfully have a discussion.	The purpose of this study is to develop classroom environment where students can have civil political discussion.
Students within the 15-1-1 classes come with students in a general classroom from another room. These students often attend without a teaching assistant. Due to the large sizes of our classes, I often feel like we are not fully meeting the needs of all students.	The purpose of this study is to see if there is a more successful way to instruct and include our students in the 15-1-1 classes.
Mental health issues are on the rise around the world. We spend a lot of time and resources talking about mental health, but it is still a huge problem for students, and it is not being managed effectively.	The purpose of this investigation is to see if I can find a way to improve teaching of emotion regulation so that students can use feelings as information rather than intrusive/painful thoughts.
8th Grade General Science students, on average, are not performing well in class or on the FOSS assessments. Students do not put much effort into their classwork, and most students do not respond to questions in the classwork correctly.	The purpose of this research is to determine a best practice in 8th grade science, using the FOSS kits, to keep students engaged and able to respond to classwork correctly which will ultimately help them to be more successful on FOSS assessments.
Many students in my Middle school classes do not write complete sentences or paragraphs when asked and when they do provide complete paragraphs most of the time they copy and paste the information from another site.	The purpose of this study is to see if I can engage my students in a more detailed in depth answering of questions asked.
In education it is always a goal to increase student engagement and participation. The quote..."I hear, and I forget, I see, and I remember, I do, and I understand" ~ Confucius has always resonated with me; however, I struggle to implement in my classroom. This year more than any with remote and hybrid instruction has exacerbated the problem of getting the student "to do" and truly invest in their learning.	The purpose of this study is to increase student engagement and participation by finding and incorporating new activities that will allow students to invest in the learning process.

Students need to take responsibility for their own learning and education especially if there is limited to no support at home. I know that these students could do and be great, but I have yet to find the means to give them that independent drive and motivation.	The purpose of this investigation is to see if I can increase student self-efficacy – their belief that they can be successful and they can get things done.
Our school district accommodating Covid-19 restrictions with a hybrid model that combines remote learning with in-class students. These different cohorts, however, do not engage with one another in the learning process.	The purpose of this study is to see if I can effectively facilitate engagement between remote learners and students in class in efforts to foster a more effective learning experience for all students.
Every year, my 8th grade students struggle to consistently and independently write a cohesive PEEL paragraph.	The purpose of my study is to see if I can devise better strategies in teaching how to use the PEEL graphic organize/method of writing.
Students struggle with visualizing the algebraic process of factorization. The abstractness of factoring is confusing and difficult for students to understand.	The purpose of this study is to see if using manipulatives to visualize polynomial operations, including factoring, improves student understanding of the material.
The 8.1.2 students are nontraditional communicators. They require a total communication system, often comprised of an Augmentative Alternative Communication tool. The classroom staff does not have the training or resources to support the communication systems effectively. Therefore, the students may not have adequate access to their curriculum and school environment.	The purpose of this study is to develop a collaborative approach to effectively implement an AAC curriculum in the 8.1.2 classroom.
My problem of practice in this research study is: "My reading groups don't seem to help kids grow from emerging readers to decoding readers the way I'd like them to."	The purpose of this study is to find instructional strategies and guides about the skills needed as students' progress from emerging readers to successfully decoding readers.
My adaptive art students sometime have a hard time expressing their emotions in art class. How can I help improve their communication/ expression during art?	The purpose of this study is to see how SEL (Social emotional learning) can be improved in my adaptive art classes. How can I help my adaptive art students improve on expressing their emotions in art class? How can my projects and time with them help their SEL?

APPENDIX O

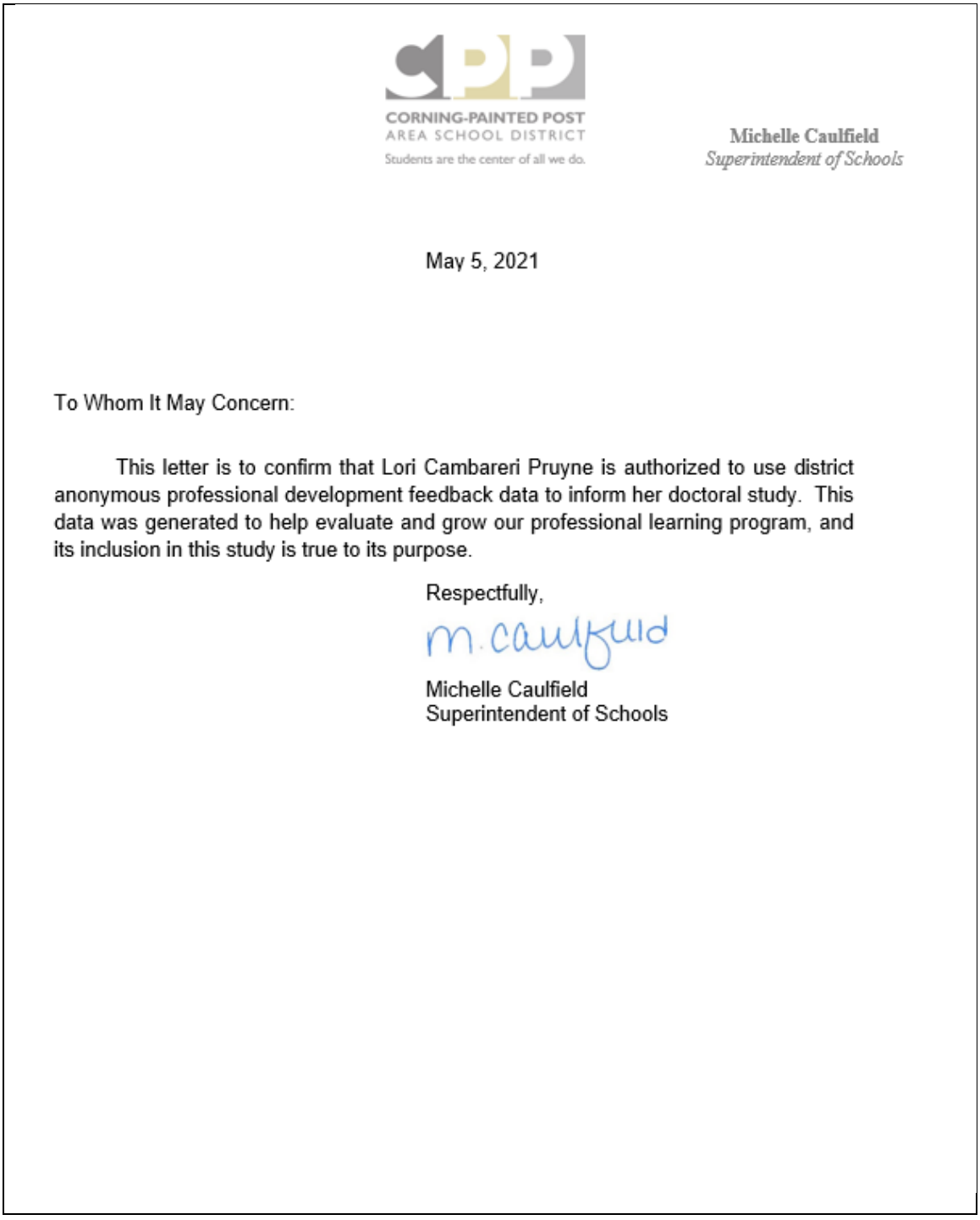
Participants' Purpose Statements and Data-Gathering Instruments

Purpose of the Investigation	Data-Gathering Instruments and Strategies
The purpose of this study is to develop classroom environment where students can have civil political discussion.	Pre- and Post-survey measuring students' comfort with discussion controversial topics and likelihood to speak out in class.
The purpose of this study is to see if there is a more successful way to instruct and include our students in the 15-1-1 classes.	Measure of behavioral disruptions with and without TA support. Measure of success in classroom tasks with and without TA support.
The purpose of this investigation is to see if I can find a way to improve teaching of emotion regulation so that students can use feelings as information rather than intrusive/painful thoughts.	Pre- and post-surveys regarding student emotions, familiarity with different strategies for emotional regulation, and incidence of utilizing strategies to regulate emotions.
The purpose of this research is to determine a best practice in 8th grade science, using the FOSS kits, to keep students engaged and able to respond to classwork correctly which will ultimately help them to be more successful on FOSS assessments.	Measure of student success of written assignments with a rubric, measured before and after a new writing strategy was introduced as an intervention.
The purpose of this study is to see if I can engage my students in a more detailed in depth answering of questions asked.	Measure of student work through formative and summative assessments, measure before, during, and after the introduction of various graphic organizer strategies for writing. Post-intervention written response survey asking students about the effectiveness of organizers.
The purpose of this study is to increase student engagement and participation by finding and incorporating new activities that will allow students to invest in the learning process.	Pre- and post-surveys to students regarding barriers to and supports for their engagement. Surveys after each new strategy, evaluating student response to the strategy. Pre-intervention survey of department members of strategies they have had success with.
The purpose of this investigation is to see if I can increase student self-efficacy – their belief that they can be successful and they can get things done.	Pre-survey asking students to rate statements about themselves – positive and negative – on a Likert scale. Post-survey asking the same questions, allowing analysis of change. Evaluation of identity presentation created by students throughout the course of the intervention.
The purpose of this study is to see if I can effectively facilitate engagement between remote learners and students in class in efforts to foster a more effective learning experience for all students.	Measurement of incidences of interaction between cohort groups before and after interventions were implements. Focus group conversations with each cohort regarding their

	feelings regarding being separated, and their thoughts on blending with the other group.
The purpose of my study is to see if I can devise better strategies in teaching how to use the PEEL graphic organize/method of writing.	Measurement of student work before and after the intervention. Comparison of post-intervention response with other classes that did not receive the intervention.
The purpose of this study is to see if using manipulatives to visualize polynomial operations, including factoring, improves student understanding of the material.	Comparison of student work before and after the intervention, and with classes that did not receive the intervention. Informal interviews with students regarding their thoughts on learning with manipulatives. Observations throughout the intervention.
The purpose of this study is to develop a collaborative approach to effectively implement an AAC curriculum in the 8.1.2 classroom.	Records of daily student verbalizations around the target before, during, and after the intervention. Comparison to other speech goals prior to the intervention.
The purpose of this study is to find instructional strategies and guides about the skills needed as students' progress from emerging readers to successfully decoding readers.	Records regarding student progress with various interventions. Comparison of progress before and after interventions. Semi-structured conversations with students regarding their learning with different strategies.
The purpose of this study is to see how SEL (Social emotional learning) can be improved in my adaptive art classes. How can I help my adaptive art students improve on expressing their emotions in art class? How can my projects and time with them help their SEL?	Marked incidence of conversation or comments regarding emotions before and after the intervention. Tracking of behavioral escalations before and after the intervention.

APPENDIX P

Letter from Superintendent Michelle Caulfield Regarding Use of Historical Data



CORNING-PAINTED POST
AREA SCHOOL DISTRICT
Students are the center of all we do.

Michelle Caulfield
Superintendent of Schools

May 5, 2021

To Whom It May Concern:

This letter is to confirm that Lori Cambareri Pruyne is authorized to use district anonymous professional development feedback data to inform her doctoral study. This data was generated to help evaluate and grow our professional learning program, and its inclusion in this study is true to its purpose.

Respectfully,

m. caulfield

Michelle Caulfield
Superintendent of Schools

APPENDIX Q

IRB APPROVAL

University of Kentucky | Office of Research Integrity
IRB, RDRC

XP Initial Review

Approval Ends:	IRB Number:
12/4/2021	62397

TO: Lori Cambareri Pruyne, MS
Educational Leadership Studies
PI phone #: 6073681411

PI email: lca282@uky.edu

FROM: Chairperson/Vice Chairperson
Nonmedical Institutional Review Board (IRB)

SUBJECT: Approval of Protocol

DATE: 12/7/2020

On 12/5/2020, the Nonmedical Institutional Review Board approved your protocol entitled:

Action research as professional development: Creating effective professional development in every classroom

Approval is effective from 12/5/2020 until 12/4/2021 and extends to any consent/assent form, cover letter, and/or phone script. In addition to IRB approval, you must also meet the requirements of the VPR Resumption of Research Phased Plan (i.e., waiver for Phase 1, training & individualized plan submission for Phases 2-4) before resuming/beginning your human subjects research. If applicable, the IRB approved consent/assent document(s) to be used when enrolling subjects can be found in the "All Attachments" menu item of your E-IRB application. [Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approval" stamp unless special waiver has been obtained from the IRB.] Prior to the end of this period, you will be sent a Continuation Review (CR)/Administrative Annual Review (AAR) request which must be completed and submitted to the Office of Research Integrity so that the protocol can be reviewed and approved for the next period.

In implementing the research activities, you are responsible for complying with IRB decisions, conditions and requirements. The research procedures should be implemented as approved in the IRB protocol. It is the principal investigator's responsibility to ensure any changes planned for the research are submitted for review and approval by the IRB prior to implementation. Protocol changes made without prior IRB approval to eliminate apparent hazards to the subject(s) should be reported in writing immediately to the IRB. Furthermore, discontinuing a study or completion of a study is considered a change in the protocol's status and therefore the IRB should be promptly notified in writing.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" available in the online Office of Research Integrity's IRB Survival Handbook. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at 859-257-9428.

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VITA

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Education

State University of New York at Cortland — 2017
Certificate of Advanced Studies in Educational Leadership

Mansfield University — 2011
Master of Education in School Library and Information Technology

Alfred University
Master of Education in Reading — 1998

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Bachelor of Science in English — 1997

Professional Experience

Assistant Principal — 2018-Present
Corning-Painted Post Middle School

Digital Learning Coordinator — 2015-2018
Corning-Painted Post Area School District

Teacher of English — 1998-2018
Corning-Painted Post Area School District

Professional Certifications

New York State School District Leader Certification — 2017

New York State School Building Leader Certification — 2017

New York State School Library Media Specialist Certification — 2011
Library, K-12

National Professional Board Certification — 2010
English Language Arts, Adolescence and Young Adulthood

New York State Permanent Teaching Certification — 2007
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